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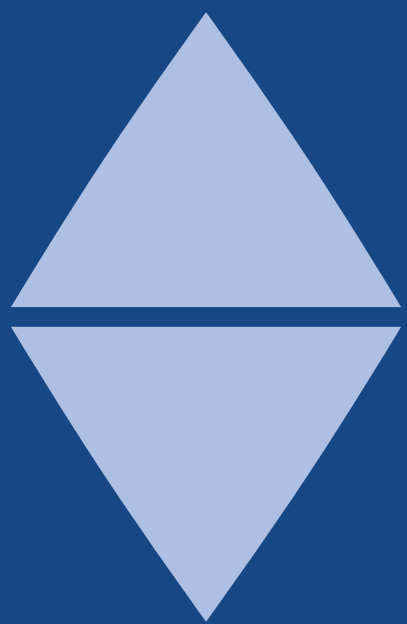
Aural Perspectives

On Musical Learning and Practice in Higher Music Education



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Contents

Introduction

This anthology ends the GEFFF project at the Norwegian Academy of Music (NAM). GEFFF is an acronym for the Norwegian title, *Det musikalske gehøret – som fenomen, fag og funksjon*, "The Musical Ear, as a phenomenon, as a discipline, and in function." This refers to three key areas connected to Aural Training in higher music education: the psychological, the pedagogical and methodological, and how aural training is linked to the general development of musicianship in any study programme and music profession.

The GEFFF project started in 2007, when six colleagues at NAM joined to create a professional team, with the intention to launch different research projects within the aural domain. Until recently, aural training teachers were mainly concerned with practical teaching and the development of methods and textbooks. The GEFFF team's main aim was to establish aural domains as a research field, in order to understand, develop and give reasons for the practice. Working within the team turned out to be very fruitful and inspiring, as the members learned from and supported each other. This team functioned until autumn 2012, when the GEFFF project ended with a three day Nordic conference at NAM. In addition to Nordic delegates, there were participants from the USA, England, South-Africa, Austria, and Germany. All delegates contributed professionally at the conference.

This anthology consists of contributions by three of the GEFFF members (Anne Katrine Bergby, Ingunn Fanavoll Øye, Inger Elise Reitan) and four other GEFFF Conference participants. The first three articles serve to frame the progression from applicant, through student, to professional musician, in relation to the aural field. The next three articles deal with learning strategies, in one way or another, and finally, a presentation of textbooks for choral aural training.

A short presentation:

Anne Katrine Bergby focuses on the correlation between students' entrance tests and exams in the areas of performance and aural-skills. She discusses whether the content of the aural skills entrance test provides sufficiently predictable results in light of the decisive position of this test for applicants.

Ingunn Fanavoll Øye discusses music analysis as a possible link between the subjects performance and aural training within an educational programme, as a way to ease the students' transference of knowledge by emphasising the connections between the two subjects.

Inger Elise Reitan's topic is listening. She has investigated how professional musicians listen to music, and discusses how this is related to the aural training subject.

Guro Gravem Johansen examines the practice of copying from recordings among jazz students as part of their instrumental practicing, towards the development of improvisational competence and a personal «voice».

A view on learning strategies is presented by *Hilde Blix*, who has investigated various learning strategies used by students in ear training. The aim is to explore how a focus on the ways students learn can provide valuable information about learning and teaching ear training.

Lotta Ilomäki brings attention to peer learning in higher music education. She demonstrates how students' instruments and instrument repertoire can be used in regular aural-skills learning, as well as how to involve students in the design of their aural-skills learning tasks.

Finally, *Soila Jaakkola* presents six textbooks in choral aural training.

The GEFFF team hopes that this anthology – with its various focuses on central aural domains – will bring inspiration to further research within the aural field, which has a central role in higher music education.

Relationships between entrance tests and exams in music performance and aural-skills at the Norwegian Academy of Music

Anne Katrine Bergby

Abstract

Focusing on aural skills and main instrument performance, the results from entrance tests and exams from 307 bachelor students at the Norwegian Academy of Music were examined to explore a possible connection between test results in the two areas. The results show a moderate correlation between corresponding tests ($p<.01$) but no significant connection between aural/theory tests and music performance. Several reservations about the content and role of the aural entrance test are discussed, including concerns about how musical aptitude can be conceptualized, how it might be measured, in addition to its relationship to performance.

Keywords: aural skills and performance, aural entrance test, musical abilities assessment, musical aptitude conception

1. Introduction

Questioning the validity and reliability of admission procedures should form a natural part in the quality assessment system for music institutions and programmes. The purpose of the present study is to elucidate the academy's admissions policies. Such a study is required at the Norwegian Academy of Music (NAM) for several reasons:

1. the collectively agreed Norwegian entrance test has never undergone the kind of investigation common to other established test batteries
2. the aural entrance test has remained unchanged since 2002, while the content and assessment of the teaching of aural-skills has been subject to continuous development

3. a general questioning of the predictive value of the aural entrance test, given that this study is a follow up to an earlier investigation which revealed diametric differences between students' achievement in performance and aural examination (Bergby 2003)
4. disagreement among the academy faculty concerning the role of the aural entrance test in the selection process
5. a need to ensure quality control in all measurement of musical behaviours

The problems for discussion focus on two questions:

> *Do entrance test results offer valid prediction for exam results in aural-skills and performance at NAM?*
>
> *Is there a significant correlation between exam results for aural-skills and performance at NAM?*

The article distinguishes between the terms *aural-skills* and *aural skills.* The term aural-skills refers to the educational subject in which the refinement and development of *aural skills* take place.

1.1. Musical aptitude

Since researchers began to study musical aptitude around 1800, they have generally acknowledged its nature to be complex (Gembris 1997; Shuter-Dyson & Gabriel 1981). Gembris (1997) classifies the understanding of musicality in three historical phases:

1. The first phase (1800–1910/20) is represented by researchers such as Michaelis, Billroth and Kreis, and has a phenomenological approach linked to musical beauty and the aesthetics of the time.
2. The second phase (1920–1980/90), characterized by a psychometric approach, is represented by Seashore, Wing, and Gordon. In this period, the main interest was to search for an objective definition of musicality and to develop standardized tests to assess musical aptitude.
3. The third phase (1980–present) is distinguished by an emphasis on musical meaning, advocated by Stefani, Blacking, Sloboda and others. The production of musical meaning necessarily involves subjectivity and creativity, but is also dependent upon musical culture/context.

The most recent approach (number three, above) is distinct from the two earlier approaches, especially in terms of psychometric measurement. Thus, several authors agree that the conception of musical aptitude has changed over time, from a largely behaviouristic view to one that is multifaceted and can be developed in the individual (Gardner 2006; Hallam 2006, 2010; Hallam & Shaw 2002; A. McNeil 1997; McPherson, Bailey, & Sinclair 1997; McPherson & Hallam 2009). Today many consider musical ability to be a social construction that is influenced by the individual's environment (Hallam 2010; Hallam & Shaw 2002).

1.2. Measuring musical aptitude

Aptitude measures attempt to predict potential whereas achievement tests are designed to measure actual achievement at a particular time. When it comes to the question of how to measure and assess musical abilities within today's broad conception, researchers have made various proposals. Karma (2007) argues that the purpose of testing must be well defined. If the purpose is complex, for example to predict success in musical performance, the test needs to be correspondingly complex. But if the purpose is to study a phenomenon in order to understand it, which is the basic aim of research, the consideration for validation requires studying each factor separately. Karma argues that *auditory structuring ability* is the single factor that can be isolated to represent musical aptitude without being related to musical genre, style, musical skills or training. Sloboda (2005/1985) suggests that testing structural skills would be the most relevant music ability test associated with musical expertise. Another study that points out *one* factor to represent composite abilities is a study from the University of Southern Queensland, where the authors suggest that pitch- and intonation-discrimination tests can be a diagnostic factor for both aural-skills results and general music studies results (Buttsworth, Fogarty, & Rorke 1993).

Shuter-Dyson and Gabriel (1981) offer an extensive and thorough review of test batteries for assessing musical aptitude and musical performance, including description of the development of the tests and how the tests have been analysed to examine their reliability and validity. Most of these test batteries assess one particular aspect of music performance at the time (for example rhythm or memory). McNeil (2000) points out a weakness of these tests: they do not specify the relationship between the various aspects and the effective performance. Shuter-Dyson and Gabriel also discuss the connection and distinction between aptitude and attainment, and, in addition, they stress that other factors influence musical achievement:

> [...] all aptitude tests are to some extent achievement tests, just as all achievement tests necessarily reflect the initial aptitude of the individual. Attainment depends not only on aptitude but also on the teaching received and the child's interest in music and willingness to learn. (Shuter-Dyson & Gabriel 1981: 7)

Because admission procedures, curricula, teachers, methods, and assessment vary between institutions, research or quality assurance related to these topics must be carried out at each school specifically. Thus, there exists a number of studies concerning the connections between entrance tests (or other predictive variables) and study results, and also regarding diagnostic factors for success in separate disciplines within music performance studies (Harrison 1990; Karma 2007; Shuter-Dyson & Gabriel 1981). Karma (1982, 2007) is critical of the methods, validity and musical aptitude tests used in many of these research studies. Like Shuter-Dyson and Gabriel, he is concerned that musical aptitude tests often become musical attainment tests, because they consist of composite tasks. According to him, abilities like musical memory or sense of rhythm are *consequences* of musical aptitude. They are of secondary nature and influenced by culture and training. In data processing, this may lead to a correlation between musical aptitude and performance that actually duplicates itself. Karma also emphasizes that the subject selection process may influence the correlation.

Sloboda has reservations about using music ability tests for educational selection reasons, and he offers some guidelines or considerations that will make the selection process more fair and accurate:

> First, a test should only be used when there are no more direct signs of achievement to examine. Instrumental or vocal performance which shows technical and expressive mastery provides better evidence of musical ability than any test can do (2005/1985: 234).

Sloboda also writes that test results should be interpreted in combination with other formal and informal evidence; test results should be linked to time and purpose, and not provide a once-for-all statement; the test should be both *content-* and *associative-valid* as a measure of musical ability; and the test should be reasonably reliable (2005/1985: 234-235).

According to Hallam and Shaw (2002) it is generally recognized that aural skills alone are not sufficient to predict success in music because of the acquisition of a range of skills required in musical practice. Hallam (2010) concludes her article by stressing that selection processes for musical instrument studies should consider a

wider range of factors than the traditional aural skills tests. Gembris (1997) stresses the necessity of deriving criteria from the music in practice, so that various musical styles and genres, with their different manifestations of musicality, can be accounted for. He criticizes the general predominance of strings, keyboard and music of the classical tradition in aural skills tests.

A diagnostic or selective use of musical aptitude tests has been widely discussed; but the aural examination in itself has also been questioned. In her doctoral thesis, McNeil (2000) identifies three "schools of thought": those who find separate aural skills tests necessary; those who claim that aural skills assessment can be performed through music performance; and those who find traditional aural skills testing outdated (2000: 115). The thesis contributes to the general discussion – both in identifying problems and in suggesting solutions or further investigation. Among the themes McNeil discusses are aural abilities required in music performance; the relation between aural skills and the musician's specific domain (involving more senses than the ear); and the need, in the communities of both performers and aural educators, for an understanding of the connection between performance and aural skills.

1.3. Norwegian perspectives

In Norway, there is no tradition for grade systems or using published batteries of tests to measure neither musical abilities nor achievement. Applicants for Norwegian music studies must perform an audition. In addition, they have to take entrance tests in music theory and aural skills. Most of the Norwegian institutions of higher music education have agreed upon common entrance tests in the two areas. Applicants who fail in either of the tests will usually be rejected from the studies. For many of the applicants, the admission procedure is their first experience with these kinds of tests. The entrance tests will be described in paragraph 2.2. The purpose of the music theory test is to assure that the applicants have the required minimum of knowledge. The purpose[1] of the aural entrance test is:

1. to find those applicants best suited to success in the programme
2. to reveal applicants who have significant shortcomings in their musical abilities, knowledge or skills
3. to map applicants' aural abilities in order to build groups of similar aptitude in the assigned courses

1 As discussed and understood by the aural skills section of NAM.

4. to indicate to applicants and pre-college schools the level of skills and knowledge required by the academy

These aims suggest that there is not a clear distinction between the concepts of aptitude and attainment. The aural entrance test is used to determine whether the applicants can be admitted or not. It is also used for diagnostic reasons – to stream the classes into different abilities once the applicants come into the program. The first two subsections, in particular, are decisive aims for which it is essential that the school asks itself whether the test is reliable and valid, as well as whether the test situation offers the right circumstances for applicants to demonstrate their level of achievement. The present study was concerned with the associative validity in the relationships between the entrance tests and the aural-skills and performance exams.

The type of aural entrance test in use for higher music education in Norway is a legacy from the musical aptitude tests of the twentieth century (Bergby 2003; Bergby & Blix 2007; Gordon 1965; Seashore 1960/1919; Wing 1961). These tests take a psychometric approach (cf. second phase in Gembris 1997). They primarily measure aural *perception* and do not take into consideration the interaction and implementation of different skills (or musical intelligences) in musical *performance*. In spite of the traditional aural entrance test, when it comes to curricula and programmes of instruction in aural-skills courses, the training at NAM has made progress. It has gradually moved towards an ecological approach, supporting the relationship between perception and meaning (Clarke 2005). The training is based on a complex conception of musical aptitude (the third phase according to Gembris) and it stresses instrumental- and study-program relevance. In addition, the assessment is based on consideration for differentiated needs according to instrument or study program. It seems clear that the entrance tests on one hand, and teaching and assessment on the other are based on two different concepts of what constitutes musical ability (Hallam 2010; Hallam & Shaw 2002).

Frequently, highly able performing musicians achieve low marks on aural tests (A. F. McNeil 2000). At NAM the discrepancy between students' aptitude and attainment was first described in a qualitative study in which students who had achieved a severely low score in the aural entrance test, were tested and followed up throughout their studies (Bergby 2003). The results suggested that the aural entrance test was *not* a reliable predictor for success in aural-skills. Furthermore, the results showed that most of these students did very well in their main instrument performance exam despite a poor aural-skills assessment. This gives occasion to the present study.

2. Method

2.1. Subjects

All the students who enrolled in their bachelor studies at NAM during 2002–2007 were required in the data. This set of students formed the complete group which at the time of data collection (summer 2011) had completed two measurements: the Norwegian standardized entrance tests in aural skills and music theory, and the scale of marks A–F (initiated by the Bologna process). Initially, the electronic student list had 564 entries, but the list was insufficient when it came to assessments. Both the electronic student files and the paper archive were examined and compared to collect and confirm the data. After correcting for double listings, changes of study program, dropouts, postponed exams and incomplete files, the sample consisted of 307 individuals.

2.2. Variables and criteria

2.2.1. Entrance tests

All three of the entrance tests that were common to all applicants were included in the study (performance, aural skills and music theory[2]). Additional entrance tests for particular programmes (e.g. group tasks for music pedagogy applicants) were excluded.

The performance entrance test was a musical audition for a jury of 3–5 teachers who short-listed the applicants. About 20 juries took place each year. The jury members were usually experts on the respective instrument. They could assess the applicants using a scale from 0 to 20, or they could simply note their comments on the performances. The academy offered no guidelines or criteria for the assessments. Both the number of juries in a given year and the range of possible assessment criteria influence the reliability of the data. At NAM this is accepted as part of the tradition and assessment practice, and it is not considered a problem. The problem of performance assessment is widely discussed in the research literature. Elliott (1987) states that even if assessment of musical performance is common (in exams, auditions and competitions), examiners often seem reluctant – or perhaps find it hard – to explain what they are looking for in anything but the most general terms. In Elliott's study, three professional examiners showed an agreement in the ranking of six performances, but the criteria they emphasized and their comments about intonation and balance were very diverse.

2 The music theory entrance test results were included primarily for context and to highlight the area of focus (entrance audition and aural test).

The entrance tests for aural skills and music theory consisted of recorded examples, with instructions and paper answer sheets. In the aural skills entrance test the applicants listened to several recordings of different musical styles and instruments and were asked to define tonal modes, intervals, chords, keys, time signatures and one- and two- part melodic inconsistencies, as well as to carry out rhythmic and melodic corrections and dictation. The minimum passing score was 65 out of 100 points.

The music theory test consisted of identification of intervals, chords, scales and harmonic analysis, as well as exercises in four-part choral harmony, two-part counterpoint and transposition. The minimum passing score was 35 out of 70 points.

These two test batteries, common to most Norwegian music education institutions, were implemented at NAM in 2002. They had been developed by a group of academic staff representing several schools. Assessment guides and point scales were included, and a minimum score for passing the tests was suggested. NAM had been satisfied with the criteria for admission in their previous entrance test battery, so they carried out investigation to compare the old tests with the new tests. This resulted in a higher minimum score for passing the aural test at NAM, than in other schools. For music theory, the limits corresponded.

The tests were assessed by faculty members. Answers that were assessed near the failure limit were re-assessed by another teacher. Four sets of tests with similar tasks rotated every four years. The tests were carried out for all the applicants simultaneously in auditoriums and other venues. Applicants could either take all of these tests during the regular week of entrance tests (medio March) or they could participate in decentralized tests beforehand (ultimo January). If they failed in January, they got a second chance in March. If they failed in March, they were disqualified unless the performance jury specifically argued in favour of them. In that case, they were allowed another attempt 2–3 months later. In a few special cases, if the test results still were not satisfactory and the performance jury maintained their opinion, the applicant's capacity to respond to expert guidance in a practical situation was tested by two aural skills teachers and one instrumental teacher. In the present study, the most recent of the general written attempts are included in the data.

2.2.2. Exams

The study includes results from the second year exam in aural-skills and the final exam (fourth year) in performance in the bachelor's program. The aural exam results from the second year (the courses Gehør 11 and Gehør 12) were included in the data because this was the last year in which all of the students had aural training in their curriculum. A few of the programmes had aural training for one or two more years,

but then more integrated with their instrumental training and sometimes without a separate exam. There was no separate music theory course in the program to be compared with the music theory entrance test[3].

In the first year, students in all of the programmes followed a uniform aural-skills syllabus that focused on music conceptualization and the development of skills, as well as knowledge and strategies for music reading and notation. In the second year, the academy offered two different courses in order to provide aural classes that were as relevant as possible to the students' instruments or study programs. The Norwegian word *gehør* means *the musical ear*. The course *Gehør 11* was designed for classical music performance studies (except church music) and folk music. It lasted for one semester and focused on the practical use of the ear in connection with playing and singing. The course *Gehør 12* was designed for the other students: jazz, composition, music pedagogy and church music. Gehør 12 was a two-semester course and had somewhat more focus on written tasks.

The aural-skills exams were assessed by an internal examiner in addition to the student's teacher. For both courses, the final exam reflected the content of the lessons and thus included some tasks that varied according to the student's instrument. Gehør 11 had a practical exam that included the use of instruments, while Gehør 12 had a two-part exam including both written and practical tasks. All the students had to prove their knowledge and skills related to harmony, melody, rhythm and listening, but the concrete tasks and the degree of difficulty varied. One might say that the exams mirrored the intentional distinctions in course content and methods, based on the needs of each instrument group or study program. The exam measured whether the students had acquired the essential professional expertise for utilizing their aural skills in connection with their instrument. This was the main premise behind the differential curriculum and a major purpose that made it appropriate to compare the results from second year aural exams[4].

Naturally, the lessons in performance were even more differentiated and tailored for each unique student than the aural-skills lessons. The value of comparing performance exam results is similar to that of comparing aural-skills results: although the students represented different instruments, repertoire and teachers, the exam results could be compared because they related to a shared standard of musicianship within the community of performance practice. In addition, comparing performances

3 While the music theory entrance test may be associated with teaching subjects such as harmony and counterpoint, a comparison of those results would be outside the scope of this study.

4 One could argue that it would be preferable to use data from the first year aural-skills results, since all first year students took the same aural-skills course. However, because I chose to focus on aural-training as a supportive subject to instrumental performance – a focus that was not emphasized in the first year course to the same extent as the second year course – I used the data from the second year aural-skills results.

of different instruments or different repertoire has a long tradition in general musical practice, for instance in music competitions. In the data for this study, external examiners assessed the performance exams and the criteria were the same as for the admission audition: the examiners' personal criteria.

2.3. Data analysis

The data were analyzed by the use of *IBM SPSS 19*. First, the material was contextualized through descriptive statistics, such as frequency and mean values, in order to understand the sample of students. In the performance audition, the mean score is 14,76 (out of 20 points, N = 209). The mean result for the theory entrance test is 51,75 (out of 70 points), and correspondingly for aural entrance test 77,81 (out of 100 points). When relating to domain-specificity (vocal, string, wind, percussion and chordal instruments), the mean scores for the aural test are between 77,1 (wind) and 78,9 (percussion). For music theory the difference is somewhat bigger and vary between 49,1 (vocal) and 53,3 (chordal instruments).

Second, Pearson correlation coefficients were calculated.

3. Results

3.1. Correlations between entrance tests and exams

Table 1: Correlations between entrance tests and exams

		Aural	Theory	Audition	Exam Gehør 11	Exam Gehør 12	Exam Performance
Aural	r	1	,284**	,045	,565**	,625**	,002
	p		,000	,514	,000	,000	,977
	N	307	307	209	178	129	238
Theory	r	,284**	1	-,097	,300**	,317**	-,045
	p	,000		,164	,000	,000	,486
	N	307	307	209	178	129	238
Audition	r	,045	-,097	1	,181*	,043	,483**
	p	,514	,164		,023	,768	,000
	N	209	209	209	159	50	164

***. Correlation is significant at the 0.01 level (2-tailed).*
**. Correlation is significant at the 0.05 level (2-tailed).*

The correlations between the aural and theory measures are all significant at the .01 level. The correlation between the performance audition and performance exam is also significant at the .01 level. Between the audition and exam Gehør 11 the p-value is <.05. The other results involving performance in either audition or exam are not significant. In light of the purpose of validating the entrance tests, a correlation below .20 may be considered weak; between .20 and .40 week to moderate; between .40 and .60 moderate; between .60 and .80 moderate to strong; and above .80 strong. In this light there is a moderate to strong correlation between the aural entrance test and Gehør 12 exam (r =.625), and a moderate correlation between the aural entrance test and Gehør 11 exam (r =.565) and between the performance audition and performance exam (r = .483). The music theory entrance test correlates weakly to moderately with the aural entrance test (r =.284) and aural exam (r = .300 and .317).

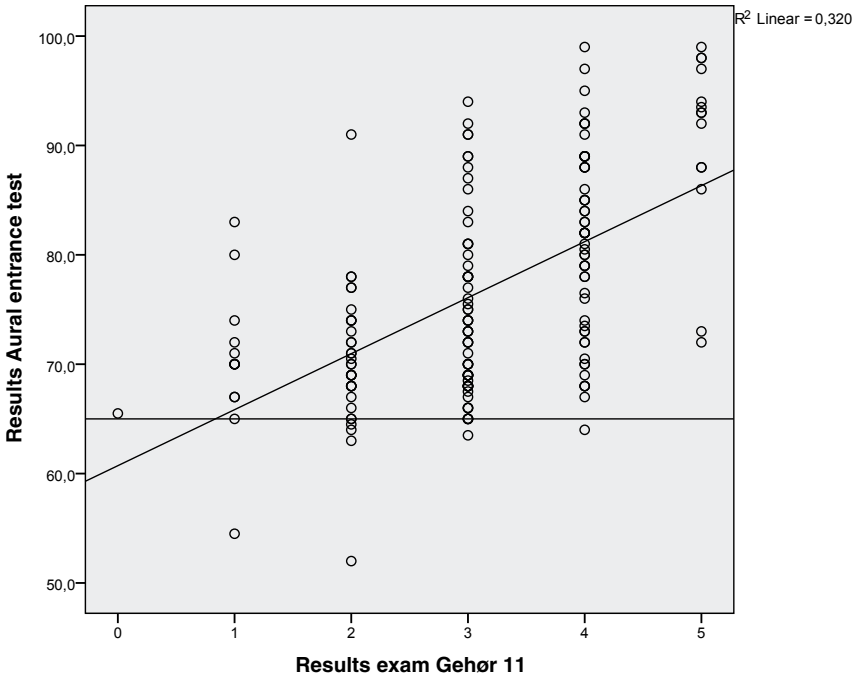

Fig. 1: Scatter plot for aural entrance test and results for Gehør 11

Scatter plots (Fig. 1 and Fig. 2) illustrate how some results weaken the correlation between aural entrance test and aural exam. The x-axis represents the marks given at the aural-skills exams. In figure 1, the numeric scale 0–5 equals the marks F–A. In

figure 2, the scale 1–5 equals the marks E–A. In both the figures, the y-axis represents the point scale in the aural entrance test, and a horizontal line at 65 points marks the threshold for passing the test. Below the line, we find those individuals who did not pass the aural entrance test. Their marks for the aural-skills exam vary from E up to B. We also find that some individuals scored well in the aural entrance test but not so well in the aural exam, and that those students who achieved good marks in the exam had a big variety in the entrance test achievement, even failure. This variation influences the correlation considerably.

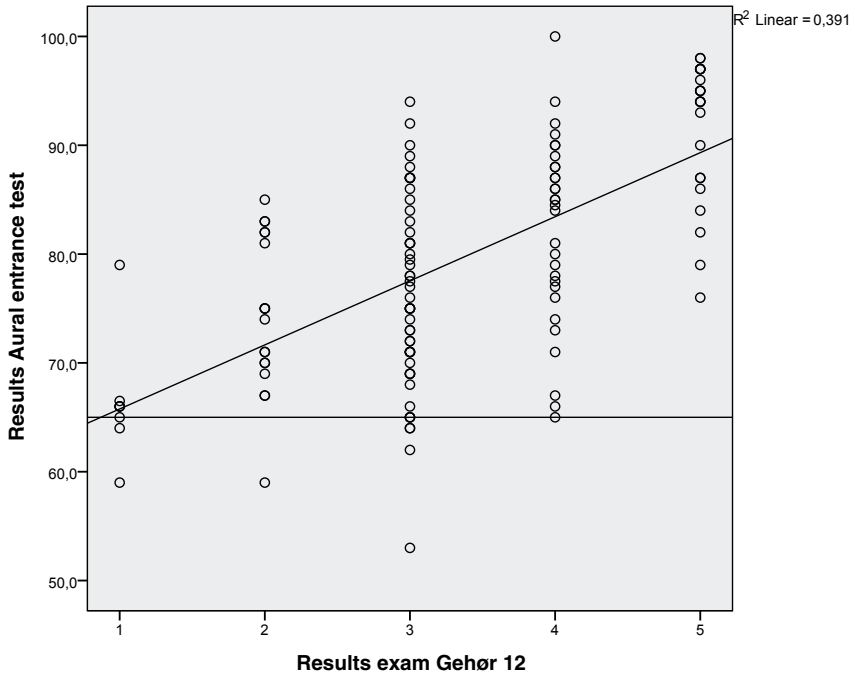

Fig. 2: Scatter plot for aural entrance test and results for Gehør 12

3.2. Correlations between aural-skills exam and performance exam

Table 2: Correlations between exams in aural-skills and performance

		Gehør 11	Gehør 12	Performance
Gehør 11	r	1		,058
	p			,481
	N	178	0	151

Gehør 12	r		1	,051
	p			,639
	N	0	129	87
Performance	r	,058	,051	1
	p	,481	,639	
	N	151	87	238

The data show close to zero correlation between aural exam and performance exam (r = .058 and .051). In addition, the significance probability suggests accidentals in the correlation (p = .481 and .639). There is no particular difference between the two aural-skills courses in this respect.

4. Discussion

The estimates in studies concerning relationships between entrance tests and exams are often not ideal. The statistical results are subject to the following important limitation: Those applicants who are not accepted as students do not take an exam. Therefore, we are not able to measure the results they *might* have accomplished, and this may well influence the statistic results. In the present study, the reduction of subjects in the data (from 564 to 307) may also be a weakness; but this was necessary to ensure that the data were reliable.

The entrance procedures at NAM are based on the assumption that entrance tests are good predictors of which applicants are most likely to succeed in their studies and which are not. But the literature reviewed for this study shows that musical aptitude tests correspondent with the aural entrance tests have been criticized for low validity and for being poor at predicting real-world musical skills. Success is, of course, a relative concept. The Norwegian authorities use the completion of studies on time as a criterion. In this study, the exam results in aural-training and performance are chosen as criteria. From the application forms, we know that many of our students are aspiring to become professional musicians. Success as measured by exams may have little to do with success in the professional life. Still, we can expect that study results in music performance offer some prediction about future success as a musician and, as a consequence, that good results in the performance exam may be regarded as general success in the studies. Given this condition, one could expect a relationship between the entrance tests and the performance exams.

Karma (1982) questions the principle of "the higher the correlation, the better the test", when the aim is to predict musical performance from a musical aptitude test. He finds a correlation of around .70 to be most valid. A correlation is very seldom exactly zero. In the present study, we found close to zero correlation when we related the aural entrance test to the performance exam. Equally disturbing (or even more so) is that the p-value suggests no linear connection at all. A close examination of the data shows that the students who achieved the best results in the aural entrance test were to be found amongst both those who did best and those who did worst in the performance exam. This paradox suggests that the national standardized aural tests cannot be relied upon in predicting success in the studies at NAM. On the other hand, the performance audition and the performance exam seem to correlate significantly ($p = .000$). The moderate correlation of .483 probably has several explanations – low motivation, that performance is not the main subject for every study program, and that the subjects already are selected according to musical criteria at the time of application (they all are good performers) (Karma 1982, 2007).

But, if there is no correlation between aural entrance test and performance exam, one could still argue in favour of using the present admission procedures *if* there was a clear relationship between aural entrance test and aural exam *and* there was a relationship between aural exam and performance exam. Unfortunately, this study shows that the second of these premises also fails. At NAM there has been a focus on relating aural-skills to performance for many years. But the exam results themselves do not seem to reflect this relationship. There may be several reasons for this. The introduction to this study outlined some dependent factors for attainment. Explanations to the findings may be that the aural exam did not measure and assess those activities linked to performance, or that the students did not prioritize both their instrument and aural-skills homework. Another reason might be the influence on the exam results of performance anxiety or aural examination fright.

This study does not investigate the reasons behind the findings. It simply sheds light on a practice where talented musicians sometimes are rejected because of poor aural entrance test results. Within this practice, the aural entrance test and the aural-skills training are grounded on different conceptions of musical aptitude (cf. Gembris 1997). While the aural entrance test is based on a practice, which has been criticized in the literature, of predicting success in studies by the means of musical aptitude tests, the teaching of aural-skills is based on a more modern conception. Here aural skills are closely linked to the processes in which they will come to use, such as playing, singing, conducting, teaching, listening and evaluating performance. In this more ecological approach, aural abilities are both developed and expressed through musical practice and reflection.

5. Conclusion

At NAM applicants who fail in the written entrance tests are usually not admitted. If the institution is to maintain this custom, there should be an indisputable connection between the entrance tests and the study results. In this research paper, exam results have been criteria for study results, and the study has revealed that the national standardized entrance tests in aural skills and music theory did not predict results for the performance exam at NAM. The only results they predicted were the results for aural-skills exam – and this exam did not correlate with performance. A broad discussion is needed about the purpose of the admission procedures, about the conception of musical aptitude and its relation with musical achievement, and about which abilities the entrance tests should measure and how those tests should be assessed. There is also a need for continuous evaluation of assessment criteria in aural-skills, as the aural-skills courses continue to develop in the direction of applied aural skills in musical performance and other musical practices.

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Music analysis: a bridge between performing and aural training?

Ingunn Fanavoll Øye

Abstract

This article looks at whether music analysis might function as a bridge between the subject of instrumental performance and the subject of aural training in higher music education. It derives from a study with three sub-studies that was carried out at the Norwegian Academy of Music; lessons given by four instrumental teachers were observed in terms of their use of music analysis, and students were surveyed about their opinions regarding music analysis, both with a questionnaire and in group interviews. The findings demonstrate that music analysis does not presently function as such a bridge, despite the fact that many students think it is very important and seek to improve their capacity in this regard. This inconsistency might be reconciled through minor changes in the way teachers conduct their music analyses for their students, and in the amount of communication between the teachers regarding analytical issues.

Keywords: music analysis, aural training, performing

1. Introduction

The individual subjects in a coherent educational program should relate to one another, and students should find it both straightforward and desirable to transfer knowledge from one subject to another. As an aural training teacher at the Norwegian Academy of Music (NAM), I am particularly interested in the connection between the subject of instrumental performance and the subject of aural training. The curriculum for NAM (2012), Aural training 1: Aims, reads as follows (my translation):

> Through working with this subject, the student is expected to develop and strengthen the ability to inner representation of sound, and to be able to use the inner ear actively when working with music. The student is expected to
>
> - develop his or her musical memory [. . .];
>
> - acquire good abilities for reading, structuring, rehearsing, memorising and reproducing a score (by singing or playing) independently, quickly and precisely;
>
> - strengthen the ability to listen actively to music, and to develop the skills of perceiving, remembering, structuring and reproducing (by singing, describing, writing) both details and overall structures in music.

In short, students are expected to be able to use their inner ear actively and to develop their ability to *memorise*, *to deal with a score* and *to listen*, all of which are important qualifications when working with a music instrument. When I teach aural training, I have found *music analysis* to be a very useful tool, both when one re-creates the music in a score using the inner ear and when one listens to actual sounding music. The clarified overview of musical content that is enabled by analysis makes it easier to know how to listen and what to listen for, because of the successful analysis' attention upon various musical elements. Such deliberate analytical attention also helps the memorising process. The formulations in NAM's curriculum, quoted above, highly support an analytic way of working, especially in the final bullet point, here rendered with my italics:

> - [...] and to develop the skills of *perceiving*, remembering, *structuring* and reproducing (by singing, *describing*, *writing*) both *details* and *overall structures* in music.

When one works to heighten one's musical attentiveness, labelling is important as well: 'Labelling (using terminology on) a phenomenon is an important supposition for teaching this phenomenon, partly because labelling makes it possible to talk about it, but also because it is of great help in just discovering the phenomenon' (Nielsen, 1998:107, my translation). Naming something makes it important, which in turn makes it more likely to contribute to the sought-after understanding of a musical work. In aural training lessons, one frequently uses professional music terms. When all of the students in the group share an understanding of a term, you no longer need

to discuss the content of the term and are free to focus upon the content of the music with the help of that term.

Because music analysis with use of professional terms holds such a grounded position in aural training in connection with active listening to music, I assumed that music analysis would hold a similar position in the instrumental lessons. I was therefore very surprised to hear the following from a student of mine in a lesson: 'We never use analysis in the instrumental lessons, only in your lessons'. The other students in the group agreed, and I got the impression that they felt it was a waste of time to pursue analysis as part of the aural training subject. This triggered my curiosity and eventually produced the following research question:

> *Can music analysis function as a bridge between aural training and performing in higher music education?*

To answer this question, I had to know more about the content in instrumental teachers' lessons, and I also had to find out if the view about analysis expressed by the students in my small aural training group was in fact representative of most of the students at NAM. Before I present the project I undertook to investigate these issues, I will summarise some of the previous research related to my work.

1.1 Previous research

Norwegian scholars Kosberg (1998) and Reitan (2006) have looked into the relationship between aural training and performing. Kosberg, on the one hand, interviewed brass instrumental teachers and aural training teachers and found that many of the former were sceptical about the usefulness of aural training to their own subject because they feared that aural training teachers knew too little about the specific characteristics of brass instruments. Reitan, on the other hand, surveyed students and found that about 50 per cent of them considered skills and knowledge from aural training to be useful when working with their instrument.

According to Vaughan, however, there is a gap between *music analysis* and performance that is typically caused by teachers failing 'to make any links between analytical study and other facets of musical tuition' (Vaughan, 2002:256). She carried out a study with twelve students taking part in an advanced undergraduate class in music analysis and had this to say about analytical method: 'Perhaps what we are looking for is not what suits the music best, but in a sense *what suits the individual student best*' (2002:266).

Ward (2004) is also concerned about the use of analysis (or lack thereof) by instrumental teachers. She investigates the aims and objectives of professional instrumental teachers working at a wide variety of levels. According to Ward, instrumental teachers were revealed to have a largely negative view of the term 'music analysis' and those related to it when they were presented for rating. However, a majority of teachers, when offering further comments about teaching methodology, indicated that analytical techniques, such as studying a piece of music for details of structure, form, shape and direction, were used within the lessons. Therefore, Ward concludes that terminology, not music analysis itself, is the problem: 'It is more likely that terminology and specific concepts of music analysis produce a negative response on the part of the teacher' (2004:212).

To make a better connection between music analysis and performance, Mawer (2003) underlines the importance of analysis being both intellectually fascinating and fun, as she proposes connections between academic study and practical performance.

Bresler (2009) is using perceiving as an approach to analysis; her doctoral students are to spend at least 30-60 minutes with an artwork to perceive it, where after they are going to describe it in detail and interpret it. Bresler says: 'Perception and description lead to the more abstract activities of deepened interpretation, generating themes and issues' (2009:19).

In order to make the music analysis more accessible, Rink (2002) suggests making graphical maps of different elements in the music, while Ward (2007) presents a 'toolkit' of strategies for instrumental teachers. Aitken (1997) emphasises holistic music analysis through following the long lines in the music and focusing on the musical context.

Despite the differences between music analysis and performance, they have much in common, as stated by Ward (2007:23): 'Put succinctly, the shared goals of music analysis and performance teaching are musical understanding, communication and problem solving'. Such common goals were important for me as well and inspired the present project.

I have pursued my investigation through three studies, all part of an overall project called 'The Bridge between Aural Training and Performing'; I will return to this in the method section below. Both the main project and the three sub-studies have been approved by the Norwegian Social Science Data Services (NSD).

1.2 Concepts

In the following section I will clarify my use of the most central concepts in this study.

My students' statements about analysis - 'We never use analysis in the instrumental lessons, only in your lessons' - might not be that uncompromising after all. One explanation might be that the concept of music analysis has different content in aural training and in performing. As I began my project, I realised that I needed a working definition of the concept of analysis that would be suitable for my project, one that was not already linked to and influenced by a certain music-educational area but was sufficiently open and neutral to encompass different ways of doing analysis. In addition, I was interested in the connection between analysis and synthesis, along the lines of Pratt (2005:12): 'Breaking down the total experience, *analysis,* becomes constructive only when followed by building up again, by *synthesis*'. I settled upon the following definition, based on my practical experience within my subject area but also on a commitment to a certain neutrality:

> Analysing means separating a material or abstract entity into its constituent elements and generating extended knowledge through examination and reflection, in order to obtain a better understanding of the entirety when those elements are recombined.

Even if this definition does not mention the use of *words* as a part of the analytical process, one normally thinks of analysing as a verbal activity, often with great use of professional terminology. In terms of the present project, the use of professional music terminology was also of interest; I wondered whether the terms used in aural training and in instrumental performance were the same, and whether terms were used to the same extent as well. Therefore, I also needed to clarify my understanding of the concept of terminology, and concluded with this definition:

> Terminology, or professional terms, refers to words and expressions that are particularly connected to a certain field. A professional term has a restricted meaning that is part of a common understanding.

These two definitions represented important tools in the analysis of my empirical data.

2. Theory

In this section I will present the theoretical basis for my study.

The meeting of performance and music analysis may be complicated to the extent that it implies the collision of 'art' and 'science'. Danish music educator Nielsen speaks of *art* as being attached to perception, while *science* is attached to intellectual and verbal processes. Nielsen says about art and science: '[...] they both serve as tools for our acknowledgement. The difference between them lies in the ways in which they express the acknowledgement, and its degree of synonymy as well as which parts of our reality they manage to capture' (1998:111, my translation).

Russian psychologist Vygotsky claims that the perceptual and the thinking consciousnesses reflect reality differently. Regarding human conceptual development, he also emphasises the connection between *thought* and *words*: 'Thought is not merely expressed in words; it comes into existence through them' (1962:125). In his opinion, words seem to be indispensable in a process of reflection. Since analysing requires reflection and thoughtfulness, one would expect words to be an essential part of it, due to Vygotsky's statement. Since there may be many different ways of expressing oneself with words through an analysis, I also find it interesting that Vygotsky distinguishes between two different kinds of concepts: *scientific* and *spontaneous*. He claims that a scientific concept is brought about by someone, while a spontaneous concept is usually connected with a personal experience in a concrete situation. According to Vygotsky, developing scientific concepts is dependent of similar spontaneous concepts on a certain level. He underlines the importance of developing scientific concepts by saying that *associations* never will lead to higher intellectual activity (ibid.).

This project is not only concerned about use of words in an analysis, but also to a certain extent about the learning process, for the students to be able to link what learned in the two subjects of aural training and performing. Scientists Lehmann, Sloboda and Woody (2007) are interested in the learning process when they refer to different studies concerning expression in musical performance. They conclude:

> [...] imitation alone, without explicit conceptualization and verbalization, is likely to be less than optimal in assisting students to expand their expressive repertoires. Teachers who demonstrate what they want and then get the student to engage in discussion and description of what they heard may have greater impact on their students' expressive development than those who simply demonstrate or talk. Similarly, students who try to verbally characterize what they hear may be more effective at incorporating new expressive options into their toolkits than those who just copy without

> verbalization. Only what you consciously attend to can be effectively learned and transferred to other contexts. (Lehmann et al. 2007:96)

The authors' focus is on the students' opportunity to *reflect through the use of words* in their lessons, an opportunity that teachers ought to give them. Making their musical awareness more of a conscious affair through discussion will help students to develop the ability to musical expression and to transfer knowledge from one setting to another.

Not everyone celebrates the use of words and development of scientific concepts as central to the learning process. According to Hungarian scientist and philosopher Polanyi (1983) we will always *know* more than we can *tell*. Some knowledge cannot be expressed in words, it is *tacit knowledge.* Polanyi uses the terms *proximal* and *distal* to describe how we come to understand some given comprehensive entity: 'Thus the proximal term represents the *particulars* of this entity, and we can say, accordingly, that we comprehend the entity by relying on our awareness of its particulars for attending to their joint meaning' (1983:13). Tacit knowledge is attached to the proximal term. Polanyi emphasises that we turn *from* the proximal *to* the distal level, for instance as when we look at a face: 'We are attending *from* the features *to* the face, and thus may be unable to specify the features' (1983:10). Because we cannot focus on the whole and the details at the same time, the ability to comprehend the whole may be destroyed by going into details on the proximal level. However, Polanyi also claims that the destruction can be reconstructed by interiorising the particulars, even if such a recovery will not bring back the original meaning. These points of view are relevant to analysis, which implies looking at details compared to the entirety. Even though Polanyi may seem sceptical to analysis, he says: 'The destructive analysis of a comprehensive entity can be counteracted in many cases by explicitly stating the relation between its particulars. Where such explicit integration is feasible, it goes far beyond the range of tacit integration' (1983:19).

It may be challenging to find words that sufficiently express the musical content. American scholar Schön confronts this problem using his notion of 'reflect-in-action', whereby the reflection takes place simultaneously with the action, 'a process we can deliver without being able to say what we are doing.' He continues: 'Clearly, it is one thing to be able to reflect-in-action and quite another to be able to reflect *on* our reflect-in-action, so as to be able to produce a good verbal description of it' (1987:31). In a discussion whether to analyse verbally or not, his view may be weighty.

When we are working tacitly, without the use of words, intuition seems to be an important guide. Nevertheless, American psychologist Bruner talks about the value of intuitive thinking in combination with analytic thinking:

> Through intuitive thinking the individual may often arrive at solutions to problems which he could not achieve at all, or at best more slowly, through analytic thinking. Once achieved by intuitive methods, they should if possible be checked by analytic methods, while at the same time being respected as worthy hypotheses for such checking. (1977:58)

Here Bruner speaks for combining the two ways of working by utilising both of their qualities: working intuitively, allowing new ideas to arrive, and working analytically, by going into details and entireties to get a cognitive overview.

English pianist and academic Rink talks about musical intuition as based on knowledge and experience, which he calls 'informed intuition':

> I also proposed the term 'informed intuition', which recognises the importance of intuition in the interpretative process but also that considerable knowledge and experience generally lie behind it—in other words, that intuition need not come out of the blue, and need not be merely capricious. (2002:36)

It seems that even the advocates for tacit knowledge find the possibility of expressing oneself in words invaluable. In an article about tacit knowledge Swedish philosopher Molander says that no knowledge is *completely* silent. He also says that even if one could imagine a 'silent' education, it is hard to see why one would strive for it, because nothing can compensate for words (1990). In addition, verbal expressions are a vital part of human *culture*, which may turn out to be important when focusing on the link between different subjects in higher music education. The student's statement about analysis referred to at the beginning of this article set up a distinction between aural training and instrumental performance as subjects within the same music-educational programme, a distinction that may be connected to the culture within each of these subjects, including its use of words. Research has shown that the learning process is influenced to a significant degree by the situation in which it takes place, including the way things are done and the words that are used. The same word in different teaching situations may have different meanings, which affects the learning process—that is, the learning becomes *situated*. American scientists Brown, Collins and Duguid talk about how a word in a sentence is situated: it is necessary to know the whole sentence to successfully and completely interpret a given word within it. They say: 'All knowledge is, we believe, like language. Its constituent parts index the world and so are inextricably a product of the activity and situations in which they are produced' (1996:22). According to their view, activity, concept and

culture are keywords when it comes to learning: 'Activity, concept and culture are interdependent. No one can be totally understood without the other two. Learning must involve all three' (1996:23).

3. Method

The overall approach of this study is qualitative, including its sub-studies which are both quantitative and qualitative.

There are three sub-studies:

- Study 1: Observation of lessons by instrumental teachers in terms of the use of music analysis.
- Study 2: Written survey given to students about their views on music analysis.
- Study 3: Group interviews with students using in-depth questions about music analysis in their educational programmes.

In this article, I will privilege the first sub-study and rely upon the other two for support. In the following section, I will review the methodology of each of the sub-studies in more detail.

3.1 Study 1: Lessons by instrumental teachers

Four instrumental teachers were asked to allow observation of their lessons for this sub-study. These teachers, all men, were chosen for two main reasons:

(1) Their rather different instruments (percussion, piano, string, and woodwind). I wanted to compare and contrast the role of music analysis in the approaches of different instrumentalists.

2) Their view of aural training and analysis. They had all previously expressed interest in the connections between performance training and aural training, and showed an understanding for the use of analysis as a method when working with students on their instrumental repertoires.

Two lessons with each teacher, with different students each time, were included in the project. The teachers were supposed to teach just one student in each lesson, but on one occasion, there were two students present, playing together. All of the students were attending an educational programme with a performing profile.

I video- and audio-recorded the first few lessons I observed, but the video recordings turned out to be virtually useless, due to their bad audio quality. Later on, then, I arranged for audio recordings alone. I was present at all of the lessons but did not participate or take notes. On occasions the teachers addressed comments to me, and at one point a student, a former student of mine, asked me a question. On these occasions I answered as shortly as possible. In general I tried not to disturb the focus of the lesson, though I did think it was important to be there, partly to make sure the recording machine functioned as expected, and partly to feel the mood and experience for myself what was happening during the lesson.

Later, I transcribed and analysed my recordings, identifying moments of music analysis according to my definition of the term. Only analysis that was elaborated and explained for the student in the lesson was taken into account—that is, I excluded statements such as 'You must play more vigorously here", even if they may have been based upon an analysis by the teacher, because such an analysis was not part of the lesson.

I categorised the moments of analysis in different ways. In particular, I looked for different *forms* of analysis, and I looked at *when* in the student's working process the analysis took place. In terms of *when* the analysis took place, I divided the working process into *phases*: a *learning* phase (when one learns the notes from the score), an *interpretation* phase (when one tries to determine the best expression of the music), a *memorising* phase (when one learns the music by heart) and a *concert* phase (when one focuses on the presentation of the music to an audience via a concert). In terms of my various observations, I had no influence on which working phases would be represented, because the teachers chose the students that participated in the study. Besides, the students were on such a high level that the first phase, when learning the notes, was already mastered when playing the piece for the teacher for the first time. However, I experienced each of the other phases, as identified through the conversation between teacher and student during the lesson.

3.2 Study 2: Survey among the students

Because the NAM music students complete coursework in both aural training and performing, they are in a position to compare the two and accordingly represent important informants in their own right. I therefore invited students in the first or second year of study, all with 'classical' instruments, to participate in a survey concerning the use of music analysis and professional music terminology in their lessons. My response rate of 60 per cent reflected the participation of 94 students out of maximum of 156, representing the following 19 instruments: flute, oboe, clarinet,

saxophone, bassoon, trumpet, French horn, euphonium, trombone, percussion, violin, viola, cello, double bass, organ, piano, guitar, recorder, and voice.

At the beginning of the questionnaire the concepts 'analysis' and 'terminology' were defined. These definitions were simpler than the ones presented in this article, but they were supplemented by examples. The questionnaire included fourteen questions. For most of the questions, the students were asked to mark in a form, but they were also encouraged to comment on their answers. In the present article, I will refer only to the results of questions 1, 2, 4 and 13. The other questions are omitted here partly to limit the length of this article and partly because of some indistinctness in some of them, which led to unreliable results. The omitted questions did not affect the questions included here, which read as follows:

(1) In your opinion, to what extent would it be useful to analyse the music you are playing?

(2) To what extent do you yourself analyse the music with which you are working?

(4) To what extent do you use professional music terms instead of everyday words and expressions when working with music for your main instrument?

13) If, in your opinion, there is a difference regarding the use of music analysis and professional music terms in instrumental lessons and aural training lessons, respectively, does this impact the ways in which you yourself use analysis and professional music terms? Choose one of the following alternatives: I am using analysis and professional music terms as it is done in the aural training lessons. / I am using analysis and professional music terms as it is done in the instrumental lessons. / I am using analysis and professional music terms as I see fit, in my own judgment.

When analysing data from the questionnaire, both a quantitative and a qualitative approach were important. I counted the markings in the forms to determine percentages and conduct comparisons, thus working quantitatively. I treated the comments on the questions quantitatively when grouping those with similar views on an issue but qualitatively when I assessed them for originality and creativity.

3.3 Study 3: Group interviews with students

The students answering the questionnaire were then invited to participate in a group interview; though the questionnaire encouraged comments, I wanted to discuss some issues in more depth with the students. Ten students accepted, five females and five males, and I divided them into four groups, according to their instruments: group 1, violin + clarinet; group 2, bassoon + vocal; group 3, organ + organ + organ; and group 4, guitar + guitar + piano. Broadly speaking, then, the students in groups 1 and 2 had 'melodic' instruments, while the students in groups 3 and 4 had 'chordal' instruments.

I created a semi-structured interview guide to guarantee that the same topics would be discussed from group to group. When working out this guide, I drew upon Krueger (1998), *Developing Questions for Focus Groups.* My guide contained nine questions, and in this article I will rely most heavily upon five of them, here rendered in brief:

- What are the advantages and disadvantages by using analysis?
- When in the working process with a piece of music do you find analysis to be relevant or not relevant, and why?
- In your opinion, what should be analysed, and what should not? Why?
- What do you consider to be the advantages and disadvantages by using professional music terms when analysing music?
- All things considered, what would be the best situation regarding the use of analysis and professional music terms in your educational programme?

In the questions not included here, I asked the students to compare and contrast aural training and performing subjects concerning the use of analysis and professional music terms. I am excluding these answers here both to limit the length of this article and to remain consistent with my earlier questionnaire use.

The interviews were recorded and later transcribed. Because the number of students participating in the interviews was so low, it was important to determine a reliable way of handling the data. When a group contain a dominating individual, other members of the group may conceal their own view. In addition, certain views may prove quite idiosyncratic. The most valuable input, then, included those views shared by several students and those views that were best argued. Thus I hoped to accommodate both common opinions and original perspectives.

With this data, of course, I worked entirely qualitatively. In this article, I have intended to communicate the 'story' the students told me in the interview situation in a form that contributed to my research project (Kvale, 2001).

4. Findings

In the following section, I will present the findings in each of the three sub-studies, with some reflections.

4.1 Findings study 1: Lessons by instrumental teachers

4.1.1 Ways of doing analysis

When observing the teachers' lessons, I found that they generally used four different ways of analyzing: (1) Analysis by the use of professional music terms; (2) Analysis by the use of metaphors and colourful words; (3) Analysis by the use of the music itself; and (4) Analysis by the use of rhythmical, meaningless syllables.

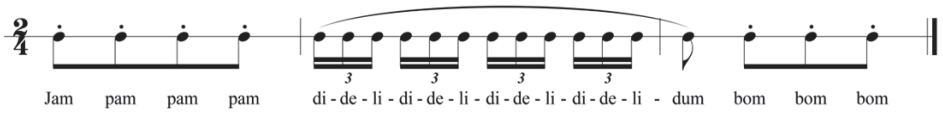
Regarding the first finding, *analysing by use of professional music terms*, the four teachers differed regarding the amount of professional music terms used. Two used many professional music terms, one used only some connected to the area of harmony, and one used very few professional music terms at all.

All four used *metaphors and colourful words*. For example, one of the teachers warned a student against playing too slowly in a given passage, because it might be felt like 'being out swimming and not having the strength to return to shore' (my translation).

The third finding mentioned, analyzing by use of *the music itself,* was used by some of the teachers, and especially by one of them. In one lesson, this teacher focused on the importance of the ninth in a certain harmonic passage, particularly in relation to the succeeding passage and in turn to the form of the whole piece. He makes his point partly with words and partly with the music itself, playing both his own instrument and the nearby piano. The music fills out what the words neglect:

> And then, the energy in that ninth, you must . . . [*He plays the current musical part on the piano.*] You see? You must let that energy last all the way down—here you are too weak. Then the return to the main theme will sound too irresolute . . . [*He plays the ninth chord, E9, as it occurs in the piece, on his own instrument.*] Because, after you have played this, the piano continues with . . . [*He plays an E7 chord on the piano.*] You see? You have to play so loudly that this will . . . [*He plays the piano.*] Forte, you see, because from this, the recapitulation shall emerge. And then the recapitulation will appear in quite another light. (My translation)

All four teachers drew upon my fourth finding, the use of *rhythmical, meaningless syllables* to refer to musical themes. For example:



4.1.2 Reflections

When I visited the instrumental teachers' lessons, my first concern was whether or not there would be any music analysis according to my definition of it. Within the powerful master-apprentice tradition to which instrumental teaching belongs, there might be little room for music analysis. However, I found that the music the students played in the lessons was indeed divided into natural parts and considered for its musical content and qualities, then put back together again for the student to play with greater insight and awareness. This process resonated with my definition of analysis. In the following I am going to add some comments to the findings.

First of all, it is clear that each of the four different ways of analysing that I observed in the instrumental lessons encompassed the use of words in one way or another. Two of them use spoken and recognisable words, while in the other two the words are partly tacit or without meaning.

When analysis with *professional music terms* was used, the link to analysis in aural training lessons was perfectly clear. *Metaphors and colourful words* were used to a greater extent in the performing lessons than is normally done in aural training, presumably because they enable useful associations for the performing student who seeks to master a given musical expression. In the vignette above, the passage had to be performed at a tempo that worked for *all* of the music, including what came just before and after the passage in question. In this regard, the metaphor used powerfully communicated the feeling of exhaustion that could accompany a tempo that was too slow. Such a metaphor evokes what Vygotsky (1962) calls a *spontaneous concept*, an important preliminary stage in the larger move toward scientific concepts. According to Vygotsky it is important to progress from spontaneous concepts (or associations) to scientific concepts in order to fully exploit one's intellectual ability. Transferring his statement to musical situations, one might say that professional music terms, since they have a defined content, are applicable to many musical situations, but their effective use demands a deeper knowledge of both the term and the musical situation. On the contrary, personal expressions about a musical passage may be appropriate for that passage alone. However, even if certain colourful expressions could be replaced by professional music terms as a given student's knowledge increases, it may still be important to maintain those expressions as an additional expressive outlet.

Doing analyses via *the music itself* seemed to be another speciality for performing subjects. I consider this being use of tacit knowledge. According to Polanyi (1983), we know more than we can tell. In my opinion instrumental teachers using this kind of analysis rely specifically on the students' tacit knowledge. In the example above, we see how the teacher used proximal and distal levels: instead of explaining with words

how to expose the energy of the ninth, he departed from this particular detail (the proximal level) to account for the whole passage within which the ninth functioned (the distal level). Thus he was expecting the student to understand the detail in relation to the whole, exclusively according to the sounding music, which acted like a language with its own unique content. If we remove the played parts from the above example, the analysis would make no sense. This also means that the teacher had to adjust these tacit messages to what the student would be able to understand. Analysis via the music itself may also be seen in relation to Schön's concept *reflection-in-action* (Schön, 1987). When playing music becomes an integral part of his otherwise verbal explanation, the teacher's reflection takes place simultaneously with this action, which causes him problems with continued verbalization. Being in a musical flow inhibits his ability to reflect and verbalise.

As mentioned, analysis via *rhythmical, meaningless syllables* on exact or approximate pitches lent an instrumental function to a verbal action. Let us revisit the example in figure 1. The pitch in this example was approximate, but it was nevertheless obvious that the first quavers were broken triads, the triplets were in a stepwise descent, and the last quavers were repetitions of the same pitch. The teacher introduced many nuances into his 'performance', save for the actual pitches. And though the 'text' is meaningless, the syllables are not arbitrary. Each triplet is gathered within the word *dideli*. Because the last syllable in this word starts with the consonant *l*, the beginning of a new triplet becomes explicit upon the return of the consonant *d*. The descent concludes on the first quaver in bar three, which also begins with the consonant *d.* All of the quavers, both in the first and the last bar, have in common that their words consist of three letters, with a 'broad' vowel in the middle, and the consonant *m* in the end. The first word in the last bar fulfils a kind of transitional function: it marks the end of the descent in the previous bar but also links to the quaver motif in the last bar. We might also notice that the first words in all three bars are given additional weight via their opening consonants. The first bar starts with the Norwegian consonant *j* (y), which is 'heavier' than the airy *p* that follows. In the second bar, the aforementioned *d* is introduced. And in the third bar, the word *dum* makes a contrast both to the previous words and those that follow.

Summed up, then, the nonsense syllables chosen here in fact carefully contribute to the point being made by the teacher, perhaps better than if he had simply played the melody on an instrument in the first place. This underlines the power of verbal communication, even in a situation like this, as expressed by Molander (1990). I consider this too a way of using tacit knowledge: the message delivered by the teacher through his syllables contains no understandable words, only musical expressions. All

is implicit and explained through the music and here again, the student must know the codes to understand the message.

4.2 Phases

Not only *how,* but also *when* the teachers introduced analysis was of interest to me during these lessons. As mentioned in paragraph 3.1, I divide the working process into four different phases: a *learning* phase, an *interpretation* phase, a *memorising* phase and a *concert* phase. I will now present examples of the last three.

In the first example, the music in question was rather new to the student. The student was able to play the piece with the right notes but lacked an adequate overview of its musical qualities, thus suggesting the interpretation phase of the process. The student and the teacher analysed the music together and determined the form of the piece to be ABA. They also identified the different themes in the piece and marked their locations. This knowledge supplied a basis for the interpretation of the piece.

In the next example, a student played a short piece that was composed in a post-tonal musical language. During the lesson, the teacher exercised the student's memory, directing the student in an analysis of the way intervals were used in the piece in repeating patterns. As a result, the student was able to play the piece by heart.

Lastly, one of the students was preparing a piece for a concert the following week. In this lesson, the teacher focused upon the upcoming concert situation, emphasising, for example, the importance of playing loud enough to reach the back of the room. Still, analysis was used to reinforce the points being made; the vignette describing analysis via the music itself, extracted above, was in fact taken from this same lesson.

4.2.1 Reflections

Clearly, analysis can contribute to very different phases of the working process involved with learning a piece of music. Analysis even occurred in the performance phase, when instead one might expect utter absorption in the musical flow and its emotional expression. In this connection, I will introduce one teacher's questions to his student (my translation): 'What does it mean to you to see that phrasing slur? What do you think, seeing it? What do you have to do to make me experience it?' With these three questions, this teacher sketches out the whole working process, from the first confrontation with the score to the interpretation of the music in performance. The teacher assumes that reading the score *means* something to the student and makes him *think.* This thinking generates an interpretation of the music and a performance, letting an audience (here: the teacher) experience what this music

has meant to the student. In this example, there are no obvious barriers between working cognitively and working emotionally with the music—one way of working leads directly to the other. While this teacher started with the score, then moved to the musical interpretation, one could imagine the process done the other way around as well, following Bruner (1977): one starts by following one's intuition, but one always checks it using analysis. This also recalls Rink's (2002) notion of 'informed intuition'. Hence, analytical work is relevant to every point in the working process with a piece of music, so long as the analysis is connected to the music's interpretation.

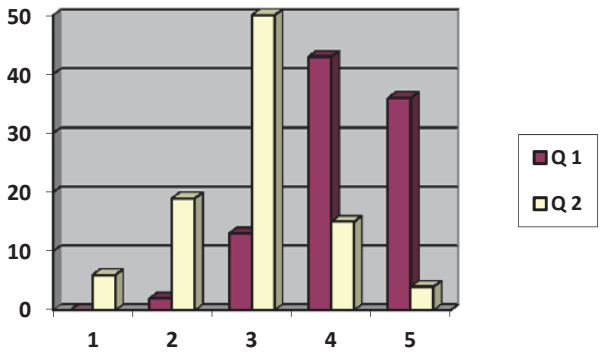
4.3 Findings study 2: Survey among the students

In the following section, I will present some of the findings from the questionnaire answered by the students.

4.3.1 Use of analysis

The two first questions concerned the student's personal view of analysis. In question 1, the students were asked to what degree they thought analysis of the music they were playing would be beneficial. Results appear in the dark columns in figure 2, ranging from not very useful (1) to very useful (5). 84 per cent of the students ticked 4 or 5, meaning that they considered analysis very useful.

In question 2, the students were asked to what degree they themselves analysed the music they were playing. Results appear in the light columns in figure 2, and here 53 per cent ticked 3, the alternative in the middle, and slightly more students ticked the two lower options than the two higher ones. Most of the students, then, ticked in the lower part of the scale.

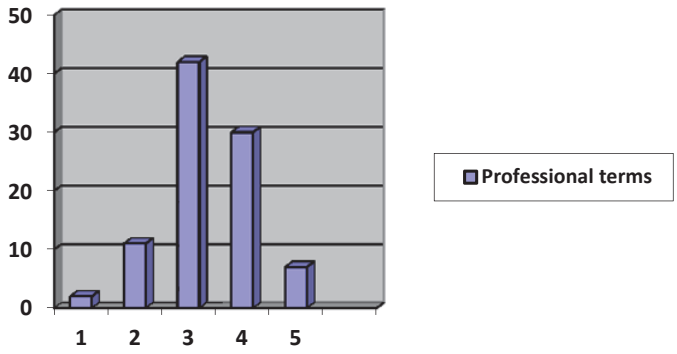


In addition, twenty-eight students commented on question 1, and twenty of these comments were positive, along these lines: 'You get a better overall picture of the piece of music'; '[Analysis is] informative and makes you notice details'; 'It is important regarding what is happening in the music, and it makes it technically easier on my instrument when I know what happens in the music'; 'It contributes to the interpretation work to obtain a good presentation that feels natural to the audience'; 'It gives an overview that helps a lot in terms of the hours spent learning the music, and it takes more to forget something you have learned systematically'.

Here are some comments on the second question: 'Not enough!'; 'I can hear what it is, but I cannot label it'; 'I am good at analysing when having a lesson with my teacher, but not by myself when practicing'.

4.3.2 Use of professional music terms

In question 4, the students were asked to what extent they used professional music terms when working with music on their main instrument. The results are shown in figure 3.



Altogether, ninety-two out of ninety-four students responded here, and categories 3 and 4 received the largest number of marks at seventy-two, which amounts to 78 per cent of the total.

4.3.3 Attitude towards the use of analysis and professional music terms

Question 13 asked whether the students used analysis and professional music terms like their instrumental teacher did, like their aural training teacher did or in their

own way. Fully 80 per cent responded that they used analysis and professional music terms in their own way, and 16 per cent acknowledged their instrumental teacher's usage.

4.3.4 Reflections

The results of question 1 indicate that the students are very interested in analysis, which is a pleasant surprise, given the introductory episode and the students' statements. The students also applaud several particular aspects of analysis: it gives an overview of the music but also allows one to notice details; it makes the instrument technique easier; it is important to the interpretation process; it helps one to memorise the music more quickly. Responses to question 2 indicate that the students think they do too little analysis themselves, and the comments for this question give the impression that the students feel they should improve their competence in analysis. Comparing the responses to questions 1 and 2, I began to wonder why the students were not better at analysis when they valued it so highly. I will return to this issue later. An evaluation of the responses to questions 2 and 4 indicates that the students think they use more professional music terms than analysis as such.

Because performance is these students' major activity in their educational programme, one might expect them to work in the same way as their instrumental teachers, yet responses to question 13 indicate that most of the students thought they used analysis and professional music terms in their own way. It may be that these students make use of knowledge from different subjects in their educational programme to form their individual applications of analysis and professional music terms. If this is the case, it is good news, because all subjects in an educational programme are meant to contribute to a whole that is greater than the parts.

4.4 Findings study 3: Group interviews with students

In this section I will refer to some of the findings from the group interviews and in particular those opinions that were thoroughly argued or shared by several students.

4.4.1 Advantages and disadvantages by analysis

To start the interview and form an early impression of the students' attitude towards analysis, I asked them to describe its advantages and disadvantages. Among its positive aspects, analysis was seen to be a structuring and timesaving means of working, a help when working alone, a help for building good sounding chords, a tool for

transferring knowledge, and a help regarding both an awareness of and an ability to perform music.

Disadvantages included the following, in the words of some of the students: 'It may be negative to look at the music in blocks —here comes a subdominant and now it is a Ss7 [ii7]—because then you cannot think of the musical entirety'; 'If it is analysed too much, the music may become theoretical. You should not lose your very first impression and experience of the music from when you listen to it for the first time. If you know everything too precisely, the mystery of the music may disappear'; 'If your analysis is wrong, it may cause you trouble'.

4.4.2 When should one be analysing?

I asked the students *when* in the working process with a piece of music they thought analysis would be beneficial. Most of those who answered this question preferred to do analysis relatively early in the process—in fact, as soon as they were able to play it through. One of them even said that one should analyse the music *before* one was able to play it, just after listening to someone else play it. Two of the chordal instrument players thought one should continue to analyse throughout the working process with the piece; one added, 'You may change your mind, which requires a new analysis'.

Two of the melodic instrument students also mentioned when one should *not* try to analyse: when playing together with others. This is because one cannot combine analysis with feelings: when playing, one is in an emotional flow; when analysing, one undertakes a cognitive process. A chordal instrument player also commented that one should not analyse while improvising; one should just feel something and then do it. However, an analysis might well be useful after the improvisation.

4.4.3 What should be analysed?

I asked the students what musical elements they thought might be analysed, and there was a notable difference in the answers from the students of melody instruments and those of chordal instruments.

The former students mentioned form, rhythm, style, dynamics, sonority, melody and phrasing as elements to be analysed. When I pointed out that they had not mentioned harmony, one of them said that harmonic analysis depended on the situation; it was important to pay attention to harmony when playing with others, for example, in chamber music, in order to obtain good intonation.

One of the chordal instrument students said that one should analyse everything and then go deeper into the things one wanted to emphasise. Another thought that

nearly everything one can find in a score can be analysed, including dynamics, tempo and the symbols over and under the notes, as well as the phrasing.

4.4.4 Use of professional music terms

Several students said it was not a problem if things were expressed in different ways in different subjects. One of them compared this to dialects, which one can understand even when they are different from one's own. Others pointed out that each instrumental teacher should have the freedom to express himself as he liked, as this was part of his personality, and personality was thought relevant to instrumental teaching. In addition, though, several of the students thought consistent professional music terminology should be used in the lessons for several reasons: to avoid misunderstandings; to introduce students to the international musical language they need to master when attending master classes or studying abroad; and to serve as a link among the subjects in the educational programme.

4.4.5 Analysis and professional music terms in the educational programme

What then, would be the best situation regarding the use of analysis and music terminology in the educational programme, according to the students? Some said they thought of analysis in the aural training lessons and analysis in the instrumental lessons as two different things. In their opinion, the analysis in aural training must not be too theoretical but instead should remain connected to playing one's instrument; instead of listening and writing down the music, then, one could listen and then *play* the music. One should play by ear in the aural training lessons, by using one's instrument for imitation and improvisation to experience analysis in a practical form, connected to one's instrument. It also would be rewarding if one could bring the score of the piece one is working on for analysis in the aural training lessons. Alternatively, each student could choose and conduct an analysis of a piece of music for the aural training group. If all of the students in the group are playing the same piece in the student orchestra, one could work with this piece in the aural training lessons as well.

The instrumental teacher, the students insisted, should be able to teach not only technically on the instrument but also analytically with the music. If the instrumental teacher taught all or part of what is now the subject of harmony in the curriculum, the students would receive more concrete assistance in the practical transference of the analysis to their own instruments. One student added, 'Because theory has its origin in the music itself, it is necessary to work through the sounding music to understand

the theory'. The students also thought it would be important to see the instrumental teacher using analysis, as a model for how to use it themselves.

4.4.6 Reflections

The students' positive attitude towards analysis in the interview reinforced the findings from the questionnaire about its usefulness. Indeed, all of the comments regarding potential disadvantages included reservations: 'it may be negative'; 'if analysed too much'; 'if your analysis is wrong'. If such conditions could be avoided, there would probably be no disadvantages to analysis at all.

As mentioned above, the students meant that the analysis should originate in the music and follow one's first hearing/playing of it; hence the music must be experienced before the analytical work could start. Asked when not to analyse, the students drew a distinction between working cognitively (playing by oneself) and working emotionally (playing with others) and favoured music analysis in the former context. I found this to be a remarkable conclusion, because it seems to exclude negotiating based on analysis in, for example, a chamber music rehearsal. It also contradicts Bruner's (1977) opinion about the advantages of letting cognitive and emotional work happen alongside one another.

When asked which musical elements in the music should be analysed, students were most interested in those that were directly connected to their particular instruments and ways of playing. The elements mentioned by the melodic instrument players affected their contribution to the overall musical work and tended to disregard harmony, even as an underpinning to a melodic line. The chordal instrument players, who tend to play from the complete score, found that everything should be analysed.

The students' view on professional music terms were divided in personal and professional considerations. On the one hand the students displayed a willingness to allow teachers considerable personal freedom when using professional music terms; on the other hand the students also acknowledged such terms' professional advantages.

The students' statements about aural training and performing being quite different when it comes to analysis are worth remarking upon as well. In my opinion, this conclusion may arise from situated learning. The cultures of aural training and performance training are rather different, which causes problems for students who try to link them. Their proposals attempt to redress this, with the overall aim of making analysis practical and usable regardless of teacher or subject area.

5. Discussion

5.1 Main findings versus the research question

In this section I will present my main findings, sorted under two different headings, according to what I observed in the teachers' lessons and what I learned directly from the students.

The teachers' way of doing music analysis: The instrumental teachers I observed did music analysis in many phases of the working process, and their way of analysing seemed especially adjusted to the instrumental subject. The use (or not) of words was uniquely vital to the instrumental teachers' analysis. Professional terms occurred to a rather small degree.

The students' view on music analysis: The students thought music analysis was important and wanted to improve their ability to analyse. They thought that music analysis should be practical and linked to performance, and that the teachers in aural training and performing should be models for how to analyse practically. They also thought that the use of professional music terms was important.

My research question was: *Can music analysis function as a bridge between aural training and performing in higher music education?*

Based on the findings presented in this article, I would certainly give an affirmative answer. However, it does appear that this is *not* the situation at the moment; changes would have to be put into effect to overcome the cultural differences between the two subjects.

The instrumental teachers I observed did a lot of music analysis, but their ways of analysing were mostly different from what is expected in aural training, according to the curriculum for the latter. But is this really a problem as such? Some previous research has focused on ways to encourage and prepare instrumental teachers to analyse theoretically by giving them different tools or methods (see Ward, 2007; Rink, 2002; Aitken, 1997). However, the most important issue, in my opinion, is not *how* the music analysis is carried out, but *that* music analysis is actually being done. The instrumental teachers' ways of analysing most likely derived from the demands of the performing subject, which means that they would likely lose something important if they were to be changed. Still, it is possible that improvements could be made.

The students acknowledged the importance of analysis yet admitted that they did too little of it. What could be the reasons for this? Did their subjects not include enough analysis? Were they not learning how to analyse? Did different approaches to analysis in different subjects confuse them?

Let me start with the first possibility: there is not enough analysis in the students' subjects. Though I encountered a lot of analysis when I observed the four instrumental

teachers there were differences among them regarding the amount of analysis. These teachers were chosen for the project because they had expressed interest in analysis; the episodes from their lessons therefore are examples of how music analysis *may* appear in instrumental lessons. Other instrumental teachers might not have such an interest and hence do less music analysis in their lessons.

As to the possibility that the students are not learning how to analyse, Vaughan (2002) claims that one should look for a means of analysing that suits the individual student best, rather than looking for a means of analysis that suits the music best. Though this sounds attractive, in my opinion this is not a way to go. The music is indeed the central issue, and students must learn different ways of approaching the music in terms of analysis, according to the style of the music, not the needs of the student. Researchers have looked at more usable ways of analysis (for example, Mawer, 2003; Bresler, 2009); here I will draw special attention to Lehmann, Sloboda and Woody (2007), who stress that discussions involving the students are important to the learning process. According to these authors, the verbal characterisation of what is heard leads to a greater awareness of the music, and hence a more effective learning process that makes possible transference of knowledge: 'Only what you consciously attend to can be effectively learned and transferred to other contexts' (2001:96). According to Nielsen (1998), labelling is an important part of the learning process, and the students here mentioned use of professional music terms as important. Certainly the use of professional music terms makes it easier to transfer analytical knowledge from one subject to another.

Regarding the possibility that students are bewildered by the range of possible approaches to analysis, we must confront the prospect of situated learning. According to Brown, Collins and Duguid (1996), learning is strongly connected to the subject where learned, for example through activities and concepts used. This is likely also the situation *within* the instrumental subjects as well, because the interviewed melodic instrument players had a different focus for their analyses than the chordal instrument players did. One would think that analysis would be more transferrable between the subjects if the students tended to analyse not only their own part in the music, but rather the entirety of the music by using a score, looking for their own part in relation to the rest of the music. Differences in analysis are not only attached to what to analyse but also to how to analyse it. The students wanted music analysis to be practical and linked to their instruments, with the teachers in aural training and performing serving as models for how to analyse in this way. Through such a practical approach, the link between the subjects would probably be more obvious, because the analyses are connected to a common aim: the interpretation of the music.

5.2 Conclusions

Let me conclude this section by summing up certain improvements to the link between aural training and performing through analysis, based on my findings in this study:

- There should be analysis in both subjects.
- The analyses should use a certain amount of professional music terms.
- The analyses should be practical and linked to the instruments.
- The students should be involved in working out the analyses.
- The teachers within the two subjects should function as models for how to make and use good, practical analyses.

In addition, there are three main conditions that must be satisfied regarding a successful analytical bridge between aural training and performing:

(1) Recognising *the importance* of analysis in both aural training and performing lessons.

(2) Recognising *the different ways* in which analyses are done in the two subjects.

(3) Cultivating *the dialog* between theoretical and instrumental teachers, the aims of which should be

- To share information about the status of analysis in the subject areas.
- To nuance the ways in which analyses are done, by being more practical in aural training lessons and more formal in instrumental lessons.
- To improve the learning outcome for students who take both subjects.

These efforts should not be confined to aural training and instrumental lessons alone.

5.3 Method limitations

The methods used in this project, despite the abundant data, had certain weaknesses. In my observation of the instrumental teachers, it was clear that the students were at very different musical and technical levels; they were playing different kinds of music from different musical periods; and they were in different phases of their work with the music. These factors may have influenced how the teachers treated the students and what they focused on, meaning that my overall picture of instrumental training might be incomplete. The simple fact that I was present at the lessons may also have affected the teaching; on one occasion in particular, I felt that the student was affected

by my presence. The teachers, however, assured me that their lessons were just like they always were.

In terms of the questionnaire, there were definitions with examples in order to preclude misunderstanding. Even so, some of the students commented that they did not understand some of the questions. Still, these comments were so few in number that they did not affect the overall results.

To strengthen the study, I would like to have involved more students in the group interviews as well.

5.4 Implications and further research

This study shows that the distance between the aural training subject and the performing subjects is rather large when it comes to the use of music analysis. Listening to the inspiring thoughts from the students, however, introduces the possibility of improvement. Changing the situation requires an appreciation of the nature of the present differences and a willingness to exploit each subject's strengths to the advantage of the other. Communication between teachers across the subject boundaries is vital. By learning about the ways in which our colleagues understand and practice analysis, we also learn about our students, who must relate to different opinions and styles of their various teachers.

Further investigation of some of the areas touched upon by this study might encompass the results of using everyday language versus professional music terms when analysing music, and the most beneficial positioning of analysis in the working process with a piece of music.

As mentioned earlier, one of the students claimed that analysis make the mastery of instrumental technique easier. According to Ward (2007), many instrumental teachers are mainly concerned with teaching instrumental technique in their lessons, and therefore fear that analysis might take too much time in the lessons. However, if there is some consistency in the student's comment, working with analysis and technique hand in hand in an instrumental lesson may be advantageous.

As we have seen, music analysis can appear in different forms in different subjects, and the challenge is to build bridges between such forms within an educational programme, to the manifest benefit of the students. I will leave the last word, then, to one of the interviewed students, speaking on this topic: 'When you have graduated, you should be a musician, not just an instrumentalist'.

Acknowledgement

My thanks go to the study participants, who gave their informed consent. I have chosen not to disclose the instruments in question in the data, to help preserve the participants' anonymity.

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Listening to music – with professional ears

A study of orchestral musicians' ways of listening

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Abstract

The training of listening skills in higher music education is a central part of the aural training discipline, often called aural analysis or structural hearing. Listening here refers to active, conscious attention paid to the music and its elements through the combination of perceptual and cognitive skills, and understanding. Theories about listening suggest various categories and types of listeners and of listening, mainly along the analytical-emotional spectrum. How do professional musicians react when actively listening to music? What is typical in their ways of listening? What are the links between listening and academic aural analysis? In this study, I interviewed eight professional musicians, seven orchestral musicians and one orchestral conductor, focusing on their ways of listening to music and how this might be related to their profession. As a starting point for the interview, an excerpt from an orchestral piece unknown to the participants was played, which evoked a great variety of reactions, both emotional and analytical. The most typical and dominant way of listening was critical listening, a professional way of listening, valuing the quality of the performance and the performers' ability. Academic aural training listening was also evident, but to a smaller degree. They also reported that the frequency of their deliberate music listening was strongly reduced, both in live concerts and listening without any purpose, and the importance of silence was strongly emphasized.

Keywords: expert listener, analytical-, emotional- and critical listening, valuing, aural training, aural analysis

1. Background

Listening to music is a normal human activity. It is also a very private activity in the sense that what is perceived and how people are affected, either emotionally or intellectually, are not observable to other people. In higher music education listening to music is involved in many disciplines, including instrumental and performing disciplines. But the development of *listening skills* is especially, and logically, important in aural training. This article deals with professional musicians' ways of listening. There is reason to believe that they, as *expert listeners*, possess a particular focus and skills that characterize their listening, as well as attitudes towards music listening in general, as a consequence of their education and professional musical practice. The main research question guiding this article is:

How do professional orchestral musicians listen to music?

I will discuss the findings of this question in relation to aural (ear) training in higher music education.

The concept of listening in this context refers to an active approach towards music, not everyday, passive listening situations where people are exposed to music in their surroundings. Professional instrumentalists must frequently listen to music, particularly their own playing, either alone or when rehearsing with an orchestra or ensemble. How has this practice affected them as listeners over the years? This study aims to provide insight into some typical tendencies of how musicians act and react to music.

Since listening to music is an abstract mental activity, the study of how people listen to music represents some methodological problems. Eric Clarke (2005:193) suggests several reasons for what he calls "a lack of open-ended and wide-ranging studies in how people listen", such as: the possible arbitrariness in choosing musical examples, differences in people's capacity to express in language what they hear, the inaccessibility of unconscious components of listening, the more or less artificial situations of people's usual listening habits, and also people's own assumptions about what they imagine they "should" be hearing. Despite the challenges of studying the listening experience, one previous study was conducted by Sloboda (1991), who examined the emotional responses of adult listeners to musical structures through the use of a questionnaire. He found that certain musical passages evoked physical reactions like shivers and tears. In my study, I will gain empirical data through the use of qualitative interviews with orchestral musicians and ask them about their experiences as professional listeners. I will return to this below in the methodology section.

For all the lack of studies of how people listen, there are many books written with the aim of *teaching* people how to listen, with titles like *What to Listen for in Music* (Copland 1957/1939), *Teaching Music Appreciation through Listening Skill Training* (Thomas 1972) and *Aural Awareness: Principles and Practice* (Pratt 2005). The pedagogical motivation for these books is the development of skills focusing on several aspects of the musical works, often with the involvement of music theory, or to develop music appreciation through knowledge and listening techniques. Eric F. Clarke (2005:5), in *Ways of Listening*, has another approach: "[…] to discuss listening to music as the continuous awareness of meaning, by considering musical materials in relation to perceptual capacities." He builds his theory upon James Gibson's ecological perceptual theory about the relationship between the perceiver and his or her environment, here connected to music listening, also called *affordance*: "affordances are the product both of objective properties and the capacities and needs of the organism that encounter them (Clarke 2005:37).

At the Norwegian Academy of Music (NAM), aural training focuses on the development of listening as a *skill*, as described in the curriculum (2012) of the bachelor degree program. One of the key aims of aural training is

> […] to strengthen the ability to active listening to music, and to develop skills to be able to perceive, memorize, structure and reproduce (by singing, playing, describing, or writing) both details and more general structures in music.[1]

This kind of active listening is often called *aural analysis*, where the focus is on musical structures and the search for patterns, with a close relation to music theory and musical vocabulary and terminology. In the program for instrumental training, by contrast, listening is only mentioned as an additional activity to the regular individual lessons. The students are supposed to engage in "self-tuition comprising practicing, listening and literature studies". This rather vague formulation is not explicitly connected to listening skills in relation to the instrument.

The aim in my study is to link aural training to musical performance. McNeil (2000) executed a study of the link between aural skills and performing musicians, with regard to the British assessment testing system (ABRSM)[2]. She found that teachers and pupils are unaware of the relationship between aural skills, as defined in the tests, and the skills used in performance. But when the interviewees became aware

1 My translation

2 Associated Board of The Royal Schools of Music. This kind of testing system is not used in higher music education in Norway.

of a wider definition of aural skills than the skills included in the assessment tests, they found aural skills more relevant in connection with performance. Her study is an interesting contribution to the discussion about transference of subjects in higher music education.

This article is the first part of a three-part study covering the following issues:

1. Orchestral musicians' ways of listening
2. Orchestral musicians' use of "inner hearing" as a tool in their profession
3. Aural training in education and its relation to orchestral practice

This study has been approved by the Norwegian Social Science Data Services (NSD). I also want to thank the participants who offered me their time and expertise.

2. Theories, concepts and definitions

In this section, I will present some theories, concepts and definitions about listening, as well as relevant pedagogical and educational aspects connected to aural training.

2.1 Listening and listener

There are many theories or concepts connected to music listening, be it definitions of *types of listeners* or *ways of listening*. Huron (2001) presents twenty-one different listening styles and strategies in a conference paper, while others mainly suggest between two to four categories. Generally speaking, music psychologist Mursell stated in 1937 that:

> It is a basic error to suppose that we ever have a response to all aspects of the music, or that it is always and for all persons substantially the same thing. On the contrary there are many types of listening (1971/1937:201).

He also stated that the focus will fluctuate depending on the listening situation, and that one way of listening is not more legitimate than another.

Listening is often categorised by the dichotomy between *analytical* and *emotional*. For example, the focus may be on the musical material and structures, as described in the NAM curriculum, or listening may have a more personal or emotional orientation.

It is also influenced by one's background, attitudes, experience, education, personality and mood.

Mursell, as many theorists after him, distinguishes between *hearing*, a passive attitude, and *listening*, an active attitude. He also suggests that listeners may be classified as *intellectual, emotional* or *motor types*, but concludes that instead of talking about types of listeners, he prefers to investigate different *types of listening.* He names four (1971/1939:218): 1) the *objective* attitude, with attention to the musical material, 2) the *intra-subjective* attitude, with an emotional or personal focus, 3) the *character* attitude, with attention to what the music expresses, and 4) the a*ssociative* attitude, where the music evokes pictures or stories.

The composer Aaron Copland (1957/1939:18) suggests three planes of listening: the *sensuous plane*, which corresponds to a kind of listening for pleasure, without thinking or considering; the *expressive plane*, listening to what the music expresses; and the *musical plane*, listening to the musical material itself. He also claims that we may listen on all three planes at the same time and that this is an instinctive matter, without any mental effort. According to him, the ideal listener should be both inside and outside the music when listening. Copland, like Mursell, also speaks of the *intelligent* listener, who listens with an increased awareness to the musical material. Thus he also demonstrates that there might be a hierarchy in the way we listen, unlike Mursell. Sloboda (1985/1996:152) also uses the concept of intelligent listening, and distinguishes between *cognitive* and *emotional* listening (ibid.:2). The concepts intelligent, cognitive, analytical, or objective listening might symbolise more or less the same type of listening with a focus on the musical material. On the other hand, emotional, associative and expressive listening are more vague in the sense that they can mean either what the music expresses or what kind of emotions the music evokes in the listener. Both of these aspects involve personal, subjective reactions and experiences.

As mentioned above, there is an important distinction between passive, everyday listening, or hearing, and active listening. Lehmann et al. (2007:212) call everyday listening *holistic* listening, opposed to the more analytical *professional* listening: "Some persons in our society have trained particular listening skills to a level necessary to function professionally as performers, composers, conductors, music critics or sound engineers." Lehmann et al. also speak of the *expert listener* (ibid.:11), described as a person

> […] who can consciously follow the harmonic progression in a piece, identify the performer, or single out every instrument from a complex sound – and still feel the joy of listening. We believe that knowledge and understanding do not preclude amazement, surprise and admiration.

This description suggests that active professional listening thus presupposes knowledge, and that this knowledge also can evoke emotions.

The psychologist Wellek (1963:33) describes two dimensions in music: the *linear* and the *cyclic*. The linear dimension includes the horizontal or melodic lines in the music, while the cyclic dimension describes the harmonic or vertical aspects. These two dimensions are relevant for the two types of musicians in my study: the instrumental orchestral musicians reading and playing one horizontal staff, and the conductor reading and listening to scores and vertical harmonies.

In this article, I will mainly focus on *ways of listening*, but also involve some elements of *types of listeners*, as my empirical material is based on professional musicians as expert listeners. In this sense the professional musician is an active listener—conscious, reflective and attentive to music.

2.2 Knowledge and skill

In the NAM curriculum of aural training, one of the aims is to develop listening skills. I will present some theories of skill and knowledge relevant for listening. Swanwick (1994:15-19) presents various levels of knowledge and claims that it is multi-layered: from *factual knowledge* ('knowing that') to first-hand knowledge or *acquaintance knowledge*, which is characterized by being deeply personal and subjective, obtained from an accumulation of previous musical experience. The latter can be tacit, unanalyzed and unarticulated. The deepest level of knowing (knowing what's what) Swanwick calls *attitudinal knowledge*, a personal knowledge gained through experience that also contains an aspect of *value* or *valuing.*

In Norwegian pedagogical literature, Hanken & Johansen (1998:185) present a definition of knowledge connected to music, comprising *theoretical knowledge, practical skills and attitudes*, not unlike Swanwick's categories. Theoretical knowledge includes aspects such as knowledge of musical style, repertoire and music theory. Practical skills include the ability to play an instrument and aural skills in identifying musical elements while reading and listening to music. Attitudes are more connected to highly specialised expertise in judging and valuing music and musical performance.

As for *skill*, Dreyfus (1998) operates with five levels in the development of skills, from the *novice*, who requires a lot of theory and thinking to be able to perform a task, to the *advanced beginner*, the *competent performer,* the *proficient performer*, and the *expert*. About the two last categories, he says:

> The *proficient performer* [...] sees what needs to be done, but *decides* how to do it. The *expert* not only sees what needs to be achieved: thanks to a

> vast repertoire of situational discriminations he sees how to achieve his goal. [...] This allows the immediate intuitive situational response that is characteristic of expertise.

This means that the expert performer has developed skills to such a degree that it is integrated into his or her body. The professional musician fits into the expert category, in terms of playing and performing in an orchestra, and also in terms of professional listening.

2.3 Aural training

The academic discipline of aural training is a natural part of any music study program. There might be differences in the name of the subject – aural training, ear training or aural-skills – and the content may vary according to national or international traditions. The Danish scholar Frede Nielsen (1998:320) defines aural training as:

> [...] an old discipline in music training. Its aim is the training of aural awareness, especially concerning musical structures – first and foremost those connected to melody, rhythm and harmony – perhaps also to musical form. According to the development of aural awareness the aim is to establish verbal categories, a fundamental musical language of musical terminology. This means that the aural training discipline becomes an integrated part of the musical craftsmanship.[3]

This definition is echoed in the NAM curriculum, which stresses the key words 'listening', 'musical structures' and 'verbal categories'.

2.4 Analysis and identification

Pratt (1990:8) writes, with reference to British music education, that "(...) once music is perceived, musicians need to be able to analyse and identify the elements within it". He means that conventional aural training is concerned with analysis and identification of pitches and duration, while other important parameters of the music are often neglected. It seems that Pratt uses *analyse* and *identify* as synonyms. Swanwick (1994:12) also has a rather open definition of analysis: "drawing attention to certain features of music is inevitably a form of analysis." Thus analysis is a way of separating

3 My translation

elements, for instance musical structures, and can be a part of aural analysis. In an analysis, you name the elements in various ways, be it in an everyday language or in professional musical terminology. In my own understanding, there is a difference in the meaning of the two concepts. 'Identification' in my own understanding is connected more to the surface of the music, as factual knowledge (e.g. "this is a dominant seventh chord, this is an oboe playing"), while analysis goes deeper and more systematically into the music to see connections among the elements, aiming at synthesis and meaning (Clarke 2005:5).

3. Method

This is a qualitative study based on interviews. The choice of method is due to reasons already mentioned: listening is an abstract and mental activity, but to some degree it is also a very personal matter. Thus the best approach in my opinion is to ask musicians to speak about their ways of listening and obtain empirical information through the interviews, based on grounded theory (Kvale 2008). I constructed an interview guide with some main themes (listening, inner hearing, aural training education) and used this as a basis for the three-part interview. In the analysis of the empirical material, I developed several categories that I found useful for the presentation of the findings and relevant for the final discussion.

The participants include eight musicians: seven musicians from three different professional symphony orchestras in Oslo, three women and four men. In addition, one male conductor was included. The orchestral musicians represent different instrumental groups and registers: two string players (viola and cello), two woodwind players (oboe and clarinet), and three brass players (trumpet, trombone and tuba). Except the conductor, the participants are all linear musicians, or 'single staff musicians', as they normally see, read and play one staff or musical line, though they are part of a complex auditory surrounding. The conductor has a broader focus, representing both the horizontal and vertical dimensions, reading complex orchestral scores while listening and balancing the whole orchestral machinery. As a consequence, he will also probably listen more consciously to the harmonic and cyclical aspects of the music than the linear musicians.

All of the musicians received higher music education, varying from 2-7 years, their average age at time was 41, their length of orchestral practice was from 8-32 years, and none of them had 'absolute pitch'. None of them were my former students, which may better guarantee a more neutral or objective relation to the researcher. In the

invitation, I made clear that I would not test their aural skills; instead I told them my interest lay in how they listen and in what catches their attention.

The individual interview session took place in my office at NAM, lasted between 45 and 60 minutes, and consisted of the three issues mentioned above (listening, inner hearing and aural training education). As a starting point, I played a three-minute excerpt from an orchestral work, a symphony movement by Erich Korngold.[4] My intention was to play music I assumed was unknown to them. The composer is Austrian, but lived many years in America where he mainly worked as a film composer. The music is lively, colourful and very rhythmic.

The music was played twice with some discussion between and after the playing. The reason for the second exposure of the music was that I assumed during first playing their attention would mainly be drawn to the surface of the music, while a second playing would reveal more details or confirm the first impressions. The interviews were taped and transcribed. They were held in Norwegian, and I have translated certain quotations into English for this article.

4. Findings

The responses to the listening process, based on the actual music excerpt, represent a variety of ways of listening. I have organized the data into six categories. Below, I also include comments from the respondents concerning how they listen in general, not only to the actual piece of music.

4.1 Identification of the music

After playing the musical excerpt, the conversation was quite open with no direct questions concerning descriptions of the music. I told them that my first aim was to understand how they listened and what caught their attention while listening to a new piece of music. As the music was unfamiliar to them, every one had an immediate and spontaneous interest in identifying the music, either by composer, period or nationality. They suggested composers such as Shostakovich, Prokofiev, Stravinsky, Rosenberg and Britten. Some of them characterized the music as neoclassical. For some, this meant

4 http://norgesmh.naxosmusiclibrary.com/catalogue/item.asp?cid=PTC5186373
Erich Korngold (1897-1957): Symphony in F#, op. 40, from 4. movement: Finale, allegro gaio. Excerpt: ca. 3 minutes. München Philharmonic Orchestra. Conductor Rudolf Kempe (1910-1976).

that it sounded Russian, American or Nordic. There was also some reasoning about what it may not be, for instance Brahms or Stravinsky, as a method of elimination.

4.1.1 Reflections

This process of identification was obviously very important to them. Since none of them had played or conducted the music before, they felt a need to find out what it was. No one recognised the excerpt, which did not surprise me. But as they all are very experienced musicians with a wide knowledge of orchestral repertoire, their guesses were not random, but educated and qualified. One brass musician said that it sounded like Stravinsky, but because of the harmonies it had to be American music, without any further reasoning or explanation of what he meant by that. One woodwind player said: "I always try to find the composer first, and recognize his signature in the music." Although the composer was not identified, the suggestions were close to the right answer, as they all recognized the period; some of them also correctly guessed the nationality, namely American.

How is it possible to recognise musical style or a composer's signature? It is not possible to recognise signature based on factual knowledge alone. It is rather a result of knowledge learned through experience, or first-hand *acquaintance* knowledge (Swanwick 1994). Recognition of signature can also be considered *intuitive*, *tacit* and *unanalysed* knowledge.

4.2 Character

Along with the attempts to identify the music there were many descriptive characteristics of the music. This was part of the open format of the beginning of the interview, as they were not directly asked to characterize or describe the music.

Some characteristics were adjectives and descriptions in *everyday language* describing the mood or atmosphere of the music. The following words were used: exciting, lively, sparkling, fun to listen to, energetic, very catchy, humoristic, nice, warm, and a kind of 'easy-listening' music. Other descriptions were in *professional musical terminology*: programmatic music, symphonic dance or ballet music à la *A Midsummer Night's Dream*. A third way of characterizing the music was through *extra musical* or *visual descriptions*: it sounded like music from a cartoon, like film music, maybe from a Nordic film like *Olsen-banden*[5]. One of them said: "I get pretty visual associations. I imagine something like Cinderella ballet in a castle…" Another participant described

5 Originally a Danish comedy film by the same name.

it as "a dialogue between the instruments as different roles or characters in a theatre". Some even commented that they would like to play or conduct the piece.

4.2.1 Reflections

In sum, all of the characteristics were positive. All participants *valued* the music as good and enjoyable to listen to, and it evoked many colourful associations. There was certainly something in the music that gave them quite vivid pictures. Even if their way of expressing the character of the piece was different, they all shared common positive reactions. In terms of listening theory, they demonstrated both a *character attitude* and an *associative attitude*, (Mursell 1971/1937), or they listened on the *expressive plane* (Copland 1957/1939). This way of listening is more emotional than analytical, although some used music terminology in their characterization.

One musician mentioned that he always was searching for strong emotional reactions like 'shiverings' while listening to music. He also referred to 'peak experiences' (Lehmann et al. 2007:46) he had as a child that had a great impact on him. If he did not get such strong emotions, he would probably lose interest in the music he was listening to. A general impression from the musicians was that emotional listening was difficult because of their professional relation towards music.

4.3 Analytical and objective descriptions

As expected, the musicians described the musical material or elements in a more analytical or objective way, mainly through the use of musical terminology. The specific elements focused on were aspects of instrumentation and articulation, the different instruments in the orchestra, who played the themes, how the bass was played with pizzicato and had a special rhythmic function, how the flute gave colour to other instruments, and how there was some tempo variation.

4.3.1 Reflections

Due to the special listening situation I did not ask them or expect them to analyse the music. In any case, there were many comments on separate elements of the music, whether we call it analysis or identification. In this category there was an obvious difference between the instrumental musicians and the conductor. The conductor gave a very detailed description of the instrumentation and also of the technical aspects of the playing. He could quickly tell that there were attacks in the strings, whether the strings played in unison or in octaves, that there were parallel movements, that the

music was tonal, had playful harmonies and a clear linearity. According to him, the whole orchestra was "a traditional orchestra, not 2,2,2 with piccolo and e-flat clarinets, only four French horns, only 2 trumpets, no trombones yet, no special percussion, only xylophone". Obviously, the conductor had an overall perception of the whole orchestra, where he could identify and describe many details in the instrumentation as well as the global picture. He perceived the *cyclic dimension* of the music (Wellek 1963), a result of his professional experience as leader of large orchestras.

Only the conductor mentioned the harmonic aspect of the music. Some musicians also told that they never listened analytically to the harmonies in music, because harmony was a rather intuitive matter. One explicitly said that she had a very unconscious relation to harmony and chords, and associated that aspect of the music more with pictures and moods. The obvious explanation here is that the natural focus for musicians is on the *linear dimension* of the music (Wellek 1963), although they are part of a complex harmonic sound and intuitively find their place within the chords and harmonies when playing in an orchestra.

4.4 Attention to and awareness of one's own instrument

One of my questions in the interview was *if* and *how* their listening was influenced by their own instrument, both in the actual listening sequence and in general. Did they have a special focus on their own instrument in the orchestral sound? They all had comments on this question, particularly regarding whether or not their instrument was aurally or physically present in the piece. A general comment was that they were extra sensitive and attentive to their own instrument in any listening situation.

"I am drawn to the oboe; my ear is used to that", commented the oboist. The trombone player could not hear his instrument in this excerpt, "or maybe it was hidden in a chord?" But he said that he was always aware of the trombone in the music. Since he knew almost 'the whole orchestral repertoire' from his own playing, he also knew how it should be played and in listening this was always in focus. He speculated that this was very common for all musicians.

The tuba player was always focused on the lower range of the music. But he also mentioned that his listening had changed over time. Now, often sitting in the orchestra with many multi-bar rests, he had time to listen to the orchestra while he was not playing, so he tried to listen to the whole music, not just the bass line.

4.4.1 Reflections

In sum, attention to one's own instrument is highly present when listening to music, whether to well known or unknown pieces. This is a kind of selective listening and might be explained by the musicians' intimate aural, physical and emotional connection to the instrument obtained through years of practice and involvement. Thus personal knowledge (Swanwick 1994) is highly integrated in the musicians' professional expertise. They also express their attitudinal knowledge by *valuing* their fellow instrumentalists' playing, as expressed by the clarinetist. He told me that he always listened with a special focus on the clarinetist's sound or tone colour, which had changed and developed over the years: "Earlier, I could hear where the clarinetist came from. Now they sound more or less the same. […] Some think that's fine […], but I think it is fine when there are different schools and traditions. It has to do with the cultures." In the next section I will comment further on valuing.

4.5 Orchestral quality and performance

Participants also commented and evaluated the *quality* of the orchestra and of the performance, most often with particular attention paid to one's own instrument. Some of them also judged the quality of the recording of the excerpt. The judgments were both positive and negative.

Some of the positive aspects related to the sound quality of the instruments. Though the music was challenging to play, the instruments sounded good together and the performance was technically proficient, as was the timing or rhythmical precision. The musical details were also considered to be performed well, with clarity, energy and virtuosity. The recording was largely judged to be good, and, as one said if it was not, "it would have annoyed me". One claimed that it was even brilliantly played, with a great deal of humour.

Some musicians did not share this positivity: "I was irritated that it was so imprecise, the trumpets were too late, and there was bad intonation in the wood winds, terribly imprecise in the strings, not quite good intonation in some upper parts of the strings." The oboist commented on the poor sound quality of the oboe in this recording, specifying that it was too bright and sharp, and that he preferred another sound.

4.5.1 Reflections

Obviously there were differing opinions about the performance. Although the majority were positive, others judged it negatively. In this category of evaluation, *critical*

listening is dominant, as when they reported how they listen in general. One said that he always listened critically to his own instrument and reflected upon whether he would be able to perform better than his 'colleague'. Another listened very analytically to the orchestra, and especially to his own instrument, the trumpet. Critical listening was thus very much connected to their profession, as instrumentalists, orchestral musicians and conductor.

4.6 Analytical versus emotional listeners

The central issue in this study is orchestral musicians' listening practices. In asking how they would define themselves as listeners, I gave them two options: emotional or analytical? Three of them, two female string players and one male wind player, defined themselves as emotional listeners. One of the string players said that she had a very emotional approach to music and searched for expression, so her listening was not primarily founded in intellectual analysis. The other five musicians described themselves as analytical listeners. All of them described how their listening practice had changed since they were younger, when they enjoyed listening to music; now as professionals, listening for them is much more demanding and analytical. One brass musician mentioned that he often listened to music, not to enjoy the music, but to learn, either "ways of doing things or new repertoire". Another brass musician said almost the same thing, that his listening always had a purpose. As a consequence, the musicians seldom deliberately listened for pure enjoyment, and if they did they usually listened to music far from their own repertoire. Some of them listened to jazz, some listened to chamber music, e.g. to Haydn or Mozart. Some avoided music with their own instrument. The conductor called himself a 'technical' listener and had to be careful not to tell others how they should listen. In addition, he said that he always analysed the music, either by studying the score or listening deeply to the performance. Another reason for reduced frequency of listening was the need for silence. As one participant said: "I do not sit down to enjoy music. After four hours of orchestral rehearsal on a stage, my brain needs silence." Another musician even claimed that silence was just as important as music.

4.6.1 Reflections

This sequence raises the following question: what is analytical listening? My own pre-understanding of the dichotomies 'analytical' and 'emotional' was founded in my own pedagogical profession of aural training, where analysis is an integral part, for instance in analysing harmonies and chords. In aural analysis, the aim is to listen

actively, searching for patterns and musical elements and structures, and verbalizing them. In this study, 'aural analysis listening' was not the most typical category, even though some defined themselves as analytical and offered analytical comments. The interviews revealed another meaning of 'analytical', namely the meaning of *critical* listening or a critical attitude. To conclude: the professional musician as an expert listener is critically listening to the musical performance rather to the music itself.

Furthermore, the participants told me that critical listening also impeded the enjoyment of emotional listening to music in general. This fact shows a rather weak correspondence to Lehmann et al. (2007:212) in the assertion that the expert listener can identify and analyse many aspects of the music "and still feel the joy of listening." In my study, it seems that knowledge and understanding might be a negative factor in terms of the enjoyment of music listening. On the other hand, the musicians have developed a highly specialized way of listening, which is crucial to functioning professionally as performers. The main focus in this listening is to *evaluate* the performance. For many musicians, intonation and precision has the highest priority, but it may also include aspects like sound quality, interpretation, phrasing, and the technical standards of the musician. Said one musician: "Always, while listening to music, I am strongly involved in noticing things that are not okay, and this destroys the joy of listening."

4.7 Summary of the listening sequence

The point of departure for the interview about ways of listening was an excerpt from an orchestral work. The six chosen categories above give a varied picture of how the musicians reacted. In their listening, they demonstrate a high degree of skill and competence: to identify the style of the music, to characterize the musical expression, to recognize musical structures and to evaluate the performance. In addition, they have a special focus on their own instrument. All these listening categories are dependent upon learning and experience, and thus represent both factual knowledge and acquaintance knowledge (Swanwick 1994), due naturally to their long-term involvement in music. The dominating mode of listening was *critical listening*, with a high degree of *judgment* and *valuing*. They evaluate the musical performance; they have learned a way of listening throughout their professional life as highly skilled instrumentalists and orchestral musicians where there is a constant focus on quality and perfection. But professional critical listening has certainly influenced them negatively in terms of listening for pure pleasure; as professionals their listening normally has a purpose.

5. Discussion

Although the study shows that these musicians are indeed skilled listeners, the main aim was to learn *how* they listen and what they could tell me about their listening practice, not to test or measure their aural or listening skills. Because of the limited amount of participants in this qualitative study, the findings represent only tendencies and will be treated as such—not as absolute statements or facts. In this section, I will sum up and present the main findings, and discuss the relevance of the findings in relation to the discipline of aural training.

5.1 Main findings versus the research question

The research question was: *How do professional orchestral musicians listen to music?*

The interviews confirmed that listening, as musical knowledge (Swanwick 1994), is *multi-layered* and that the musicians perceive and listen to many aspects of the music at the same time: they recognise the style of the music, they observe musical elements and identify or analyse them, they react to what the music expresses or what kind of associations the music evokes, they judge and value the orchestral performance, and they pay special attention to their own instrument in the music, to the role it plays in the orchestra and to the quality of the performer. They are expert listeners.

The most striking finding concerned *critical* listening. What I expected to learn was how musicians listened to music 'as music', or on the sheer musical plane (Copland 1957/1939). I learnt that listening to the *performance* was dominating.

Lehmann et al. (2007:14) consider music listening and music making to be *learned behaviours* or skills, which means that there are individual differences among people with regard to these skills. My study confirms this theory, for instance when the conductor listens more to the cyclic dimensions than the orchestral musicians, who are more oriented towards the linear dimensions (Wellek 1963). Critical listening is obviously a learned behaviour, through education and experience.

Another important finding was that their profession had negatively influenced the practice of listening for pleasure, and that silence had become very important. There are several reasons for this. One is that daily exposure to music is hard. As one musician said: "I love music. But working in the opera, there is so much sound in the job that the ears simply must rest. I am exhausted in my body by all that sound." Analytical as well as critical listening also makes it difficult to relax while listening. The listening becomes so active: "You never switch off. That is the problem." Hearing such utterances is not surprising, as we often hear similar things from colleagues or know it from personal experience. As Mursell (1971/1937: 212) wrote: "there is a

constant danger for the trained musician that his listening will become so refined and highly sophisticated, so much dominated by the details of structure, that it loses vitality and significance."

5.2 Critical listening and valuing: the expert musician's way of listening

As mentioned, I had a pre-understanding of what analytical listening was, as structural listening. The interviews revealed that analytical listening was more like critical listening. I found that this type of listening is commonly associated with the specialized listening skills of music producers and sound engineers, directed mainly to the technical qualities of sound.[6] Critical listening in my context has to do with a way of listening to the quality of the performer, of the performance, and of the interpretation. When the musicians in my study described their general listening attitudes, their speech was often dominated by a critical attitude, with a focus more on the performer and the performance than on the music. This might be a result of their constant search, as professional musicians, for the perfect sound, the perfect intonation, and the perfect precision.

Critical listening is thus connected to attitudinal knowledge, and involves value judgment, as described by Swanwick (1994:88): "It goes beyond sensory and expressive enjoyment or even pleasure in the fascination of music's structural twists and turns: it is an explicit celebration of 'quality'." This value judgment involves aesthetic judgments about good and bad performances and performers, good and bad interpretations, including listening to their own instrument and their own performance. This attitude is based on high-level skills and professionalism.

Within aural training, listening is normally directed towards analysis and objectivity. Professional musicians' listening is strongly connected to their instrumental practice, and in this study also to orchestral practice. A critical attitude is thus a positive attitude when it comes to evaluating qualitative performance, either their own or their colleagues'. But, as we have seen, this also has negative consequences, as it leads to the loss of enjoyment in music listening in general. As the conductor said, with a high degree of regret: "I cannot be an ordinary listener." It is tempting to respond: No, you are an expert listener!

6 Critical Listening vs. Analytical Listening: Two ways To Listen To Music Productions. Retrieved 08.05.2013 from: http://www.music-production-guide.com/critical-listening.html.

5.3 The link between aural training and musical performance

In this section, I will discuss the findings of the study in relation to aural training in higher music education and the possible relevance the study has to the education of professional musicians.

Academic listening is an analytical attitude towards musical material. This does not mean that critical listening is not academic or analytical. It has another focus. In the NAM curriculum, the concept of critical listening is not present, neither in aural training nor in the instrumental discipline. But in every instrumental lesson, in the rehearsal studio or in chamber music rehearsals, the critical ear is constantly activated. Also, in the aural training classroom, critical listening is important and active, for instance in sight singing and intonation, rhythmical exercises aiming at a high degree of precision, ensemble singing, etc. However, NAM does not use the term 'critical' listening.

Traditionally, the training of aural skills is evident in any study program aiming at educating musicians. Aural analysis is such a skill to be developed. In a study among first- and second-year students at NAM, 80-90 per cent responded that aural training was very important and useful (Reitan 2010:211). There were various explanations for this perceived importance and usefulness: from concrete and practical skills to more abstract skills, such as developing 'consciousness and understanding'. In McNeil's study (2000:210), she claims that the elements of *understanding* in an integral part of aural ability related to performance proficiency. She describes the performer's understanding and knowing to include "*musical production,* the process of creating music; *perception*, the ability to discriminate and monitor aural feedback; and *reflection*, critical thinking skills and the capacity for interpretation". Included in her definition of aural training, are also "self-reflection and criticism, stylistic awareness and demonstration of understanding".

Regarding the effect of aural training, more than 50 per cent of the students (Reitan 2006:108) answered that they developed *the ability as a listener* to a high or very high degree. Almost the same result was obtained for the development of the *ability to recognize musical structures* (ibid.). The skill to analyse harmonies and chords aurally is also an important element in aural training, both as an oral or written task. In a question about 26 various aural skills, the learning and understanding of harmony was seen as the most important skill to develop in aural training (ibid.:117). The majority of students who chose that option were linear musicians.

The main challenge is the transfer of skills from subjects like aural training to the instrumental and performing disciplines, as stated by McNeil (2000:359): "There is an argument for separating skills to develop them, but these skills are fully realised only when transferred back into context. " At NAM there have been discussions about

the role of compulsory subjects in the programs, such as aural training. Changes have also been made to link aural training closer to the instrumental subjects, for instance in the way the classes are organized and also in the content of the subject. Currently (2013), the first year of study offers a general platform for students in all study programs. In the second year, the curriculum is directed towards the special requirements of various instrumental groups. The actual program describes the aim as transferring "knowledge gained in aural training to other aspects of the musical field, by listening and reading, and to manage various aural strategies to solve musical challenges." It also states that the content of the courses and activities should be relevant for the actual study program or instrumental group. In addition, students also use their instruments in aural training classes. In practice, students are grouped by their instruments—singers, strings, keyboard- and chord players, wind players etc.—in order to make aural training as relevant and useful as possible to the students in their future profession. There have also been recent attempts to encourage closer collaboration between the instrument teachers and aural training teachers. For example, a special chamber music program has been going on for several years, involving a team of instrumental teachers and teachers from music theory and aural training. Such projects depend on interest from all the disciplines to be successful.

5. 4 Final comments

What is the link to aural training in the findings? The musicians stated that they normally do not listen to music in the 'aural training way' by analysing structures and chords. But there is certainly a difference between 'aural training' learned in school and general 'aural skills'. For this reason, it is important to admit that the development of aural skills is a continuous process in the musical profession. A musician, conductor or orchestral instrumentalist will continue to develop and strengthen the skills needed to function as a professional musician. The aural training skills learned in an academic education are included throughout, from basic factual knowledge to the highest level of attitudinal knowledge and expertise. And finally, valuing is an important aspect of critical listening, which seems to have become the dominating way of listening to music.

> "I assume that you as a musician listen differently, according to your starting point. You bring your priorities from your profession into the listening." (brass musician)

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"Learning from musicians better than me": The practice of copying from recordings in jazz students' instrumental practise

Guro Gravem Johansen

Abstract

The article gives an account of the practice of copying from recordings, as a part of jazz students' instrumental practise. The article is based on a PhD thesis, which was designed as a qualitative interview study with 13 Norwegian and Swedish jazz students, within an activity theoretical framework. Results show that copying as learning practice is considered to have different outcomes, where acquiring a specific musical content or musical 'language', as well as developing a generic procedural improvisation competency were perceived outcomes. The character of the learning objects were connected to different copying modes, differentiated in three main categories: detail-oriented copying, concept-oriented copying, and improvising along with recordings. The three modes, though different in character, all involved improvising. This was interpreted as a means to personalizing the acquired knowledge in order to operationalize it in their improvisatory performing practice.

Keywords: instrumental practise, jazz, improvisation, copying, recordings, activity theory, learning outcome, learning object, copying

1. Introduction

How do jazz musicians learn to improvise? Since jazz musicians work with music which is created during the performance in an aural, interactive context, and unlike classical musicians seldom perform precomposed works, questions like *what* they practise, and *why* they practise what they do, seem just as relevant as the *how*-question. These questions were points of departure for the PhD study (Johansen 2013) which this article relies on. The study explored *instrumental practising as practice*

among students who work with developing their improvisation competence within the context of jazz education.[1]

As the jazz tradition often is seen partly as being an oral music tradition (Prouty 2006; Whyton 2006), learning to play by imitating and copying music from recordings by ear is correspondingly considered a central practice for aspiring jazz musicians (Berliner 1994). In the study, this topic was one of several that was examined, and which will be focused on in this article.

The article will set out with giving a brief review on previous writings, followed by an account of some central theoretical concepts which framed the study as well as the research methods that were used, before presenting and discussing the data.

1.1 Previous literature

As mentioned above, recorded music is often held to be an important source for jazz musicians when it comes to both *choosing repertoire to play* for performing as well as *learning a style or genre* in general from recorded models. In a comparative study of performance practices among classical music students and jazz-/pop- and folk students,[2] the latter group spent far more practise time with copying and memorizing from recordings than the group of classical students (Creech et al. 2008). Copying as a learning practice seems to dominate the time spent on learning music within these genre groups (Creech et al. 2008; Kamin, Richards, & Collins 2007).

According to Berliner (1994), the practice of copying can offer a more meaningful learning motivation than another typical practising method for jazz musicians, the so-called *chord/scale method* (Kenny & Gellrich 2002). Shortly, the chord/scale method involves learning scales generated by spesific chords, and automatizing a repertoire of melodic patterns associated with specific chord progressions (Thompson & Lehmann 2004), as a means of building a musical vocabulary or 'storehouse' (Berliner 1994: 102). The chord/scale method is often criticised for offering merely 'correct notes' to play, without a deeper understanding or motivation for actual musical choices in the execution of an improvisation (Berliner 1994; Kenny & Gellrich 2002; Monson 1996). It has been claimed that building a vocabulary by copying by ear can compensate for

1 *Practise* or *practising* will in the following refer to the ecquivalent of musicians *training* or *rehearsing* on their instruments, while *practice* will refer to the ecquivalent of *praxis* or *cultural patterns of action,* to keep a distinction.

2 In the article mentioned, the term *non-classical* was used to include both jazz -, pop - and folk music students. Though the results presented are interesting, I consider this term both unpresise and biased, and prefer therefore to list the three different genres that *non-classical* was suppose to refer to in the mentioned article.

that (Berliner 1994). To illustrate this point, Berliner quotes a jazz musician who advocated copying by saying:

> It may be helpful just to see what someone like Miles played, but the books don´t really teach you anything about why Miles did what he did, what his thinking was. That´s what´s needed (Berliner 1994: 104).[3]

To build a musical 'storehouse' by copying involves, according to Berliner (ibid.), acquiring a complex vocabulary of conventional phrases and phrase components, by identifying and interpreting them (by ear) in such a distinct and presise manner that the perfomer is capable of performing them on her own instrument. In turn, they become a part of the improvisatory, expressive language. The deeper musical understanding that can promote the perfomers´ own musical creative motivation comes from the factor that she internalizes phrase components and simultaneously establishes musical associations between musical patterns, forms and chord progressions. This can promote a holistic understanding of construction and application of phrases (ibid.) learnt from exemplary models on the recordings. In cognitive literature on improvisation, this application of pre-learned material is often described as 'stringing' phrases together in an appropriate order (Johnson-Laird 2002; Pressing 2005).

Just *how* is copying carried out? In her study of how popular musicians learn, Green (2002) found that the subjects spent a lot of time listening to recordings as a learning activity, a finding that is in line with the studies on jazz, pop and folk students mentioned above. Green also differentiated listening as learning activity in three different forms, or modes: *purposive, attentive* and *distractive listening,* respectively. The first mode is the most relevant for my purpose, because what Green depicts as purposive listening involves learning through conscious and deliberate copying. It varies from meticulous copying of details to perfection, to the practice of *playing along* with the recording while trying to play or sing in accordance with "*the feel and form"* (ibid.: 62).

1.2 Theoretical framework

An important premise for the PhD study was that practising practices develops within specific music cultural frames, and activity theory was chosen as the theoretical basis for the project. An *activity* is understood on a social/collective and historical level, and is constituted by individual and time-limited *actions* (Engeström 1987,

3 'The books' in this statement refers to instructional method-books on improvisation, often based on the chord-/scale approach.

2001; Leontiev 1978). A collective activity as well as an individual action is always directed towards an object. This has been described as the *raw material* the subjects are working with, a *problem space* or a *target* for the activity or action (Hardman 2008). In an educational context, the object can be seen as the content of a learning activity. Working with the object is directed towards concrete and specific *goals* on the individual action level, and towards an overall *motive* on the activity level. The motive of the activity is embedded in the object, and transformed to an *outcome* through activity.

The meaning and coherence inherent in an activity is loaded with historically and socially developed values and norms, continuously appropriated and/or negotiated by acting subjects on the concrete action level (Engeström 2001). In line with this premise, instrumental practising was regarded as a culturally shared activity in the study, where the daily, individual practising gains its meaning and coherence from a culturally developed activity of learning to improvise in the jazz tradition, *learning activity* (Engeström 1987).

Practising must also be seen in relation to the *activity of playing and performing*, or, in correspondance with Engeström´s terminology, the *basic work activity* (Engeström 1987). The subject´s intentionality and choice of learning objects and goals depends on collective norms, values and accessible resources from the performing arena, which is the culture of improvising within a jazz context. In improvised music, the music is created during the performance, interactively with others who also improvise. The musical outcome is therefore unpredictable (Johansson 2008). Also, an underlying value of the activity of performing in jazz (basic work activity), is the expectation that each performer should construct her personal, musical voice on a long term basis, that is, creating something new (Berliner 1994; Johansen 2013).

1.2.1 Expansive learning

Different norms and values can come into conflict. In an improvised musical practice, a subject might want to acquire pre-defined musical material or pre-played music by others (i.e. by copying from recordings), and thus 'attach' herself stylistically to the history of improvising musicians. At the same time she might experience an urge to set aside rehearsed skills or patterns to be able to play spontaneously, to interact with others in an authentic playing situation, and to develop a personal and new musical voice on a longer term basis. The following quote from the bass player Cecil McBee in an interview with Ingrid Monson is illustrative: *"You´re not going to play what you practised. Something else is going to happen."* (Monson 1996: 84).

These dilemmas can be characterized as typical *double bind-situations,* and can be connected to how activities, according to Engeström (2001), are filled with inner contradictions that create such double binds. Contradictions can create a constant instability and thus a potential for change. Coping with *overcoming* them, in a strive for continuity and coherence in one´s life, can be seen as a driving, developmental force (Engeström 2001). Subjects who experience double binds when trying to learn, often start to question and negotiate the meaning inherent in the object of the activity. This can lead to a redefinition and re-interpretations of the object, and thus an enriched and expanded repertoir of actions for the subject. In this way, the learning activity has a potential of not only creating changes in the learning subject, but also changes in the *object,* described as *expansive learning,* where (the meaning of) the object expands as a result of the learning process.

1.2.2 The use of cultural tools: entering an intersubjective space

Object-oriented activity is always mediated by *tools* (Vygotsky 1978), which can be understood as physical, external artefacts as well as symbolic or psychological, internal signs, e.g. language. According to Engeström (2005), the theory about mediation provided an understanding of how humans can control their own behaviour "(...) *'from the outside', using and creating artifacts."* (ibid.: 28-29). When subjects utilize existing cultural tools they need to internalize their cultural meaning and function. This is how acting by the use of a tool indirectly can be a means of participating in a specific culture (Wertsch 2007). But subjects can also create new tools or new ways of using existing tools (remediation) (Engeström 2005). The use of tools therefore has a creative potential.

According to Wertsch (2007), a person can use a new tool before she understands the meaning and function of it, just by imitating others. Wertsch claims: "*Not only may it be possible, but it may be desirable for students to say and do things that seem to extend beyond their level of understanding."* (ibid.: 188). He uses a metaphor adopted from Bakhtin (1982, in Wertsch 2007), *ventriloquation,* and argues that by speaking with 'other peoples voices', students acquire a social language that creates a possibility for entering a communicative, intersubjective space with more competent or experienced persons, and thus access to knowledge not yet appropriated. This can be seen as a redefinition of *the proximal zone of development* (Vygotsky 1978).

Copying from recordings can be seen as a means of internalizing an existing social *musical* language through an indirect participation with more experienced musicians. Entering this new zone of development creates a potential for learning new ways of 'speaking'. However, before the learner has appropriated the language and 'made it

her own', her musical expression might be experienced as too much influenced by what she has copied and as 'speaking with another person´s voice'. Given the inherent cultural value that a jazz musician should develop her own musical voice, the question is how jazz students who do copy as a part of their practising, tackles the potential risk of not 'getting rid of the ventriloquist'.

2. Method

The study was conducted as a qualitative research project, with an ecological approach (Hallam 1997; Merriam 1998). That is, in this case to study practising practices as they already occur, in the participants everyday-environment, from their point of view, or "*the emic, or insider´s perspective*" (Merriam 1998: 6). In this section I will give an account of the recruitment of participants, how the gathering of data was conducted, and procedures for analysis and interpretation.

2.1 Participants

The participants were 13 students recruited from jazz programmes in four higher music education institutions in Norway and Sweden. I visited the institutions, informed students about the research project, and invited them to sign up for the study voluntarily. They were then selected based on a desired variation among the criteria *instruments, sex, year of study, and genre preferences.* Most of the participants were recruited from this procedure, but in order to cover sufficient variation in the criteria mentioned, it was necessary to make use of an *ongoing sample* (Merriam 1998). The rest of the participants were recruited by email conveyed by 'gatekeepers' (Creswell 1998) of local teachers.

The selected students ranged from their 1st to their 3rd year, and were typically in their twenties of age. There were 5 females and 8 males in the participant group, and their main instruments covered vocals, trumpet, saxophone, trombone, piano, guitar, bass and drums. Their genre interests varied from be-bop/mainstream jazz, ECM-inspired jazz,[4] Scandinavian folk music, pop music, to free improvisation, among others – all with an improvisatory approach as the common ground.

4 The acronym ECM (European Contemporary Music) refers to the European record company ECM Records, established in 1969 by Manfred Eicher. Its musical profile is associated with contemporary crossover genres with an improvisational approach. By the participants in the study ECM was associated with

2.2 Data gathering

The data was gathered by using a semi-structured qualitative interview (Kvale 2001) with each of the participants. The interviews were mainly oriented towards the following themes: musical background, values connected to musical improvisation in general, personal achievement goals, specific questions regarding contents and objects in the students´ practising, perceived and experienced relations between individual and collective practising, and between practising and performing. In the study, the motives, goals and objects the jazz students set for their own performing and thus their practising, were seen in relation to concrete learning actions which the students initiated for themselves in the 'practise room'.

An epistemology of qualitative research has the premise that knowledge derived from the interview is a mutual construction of meaning through interaction of the two parties, the participant and the researcher (Kvale 2001). This means that the researcher necessarily influences the data, mentioned as *the researcher effect* (Repstad 2007). Nevertheless, given the emic perspective, I strived to capture the students´ own experiences, and to compensate for the researcher effect by avoiding normative questions. I also attempted to explicitly adress my own subjective assumptions and use *validation questions* (Kvale 2001) during the conversation. The data were also subsequently validated by using *member check* (Merriam 1998), where the participants had the opportunity to read through the interview transcriptions.

In accordance with criteria for the qualitative interview, emergent themes that seemed relevant for the individual participant were followed up, whereas less relevant themes were left out, in order to capture his or her subjective meaning making in relation to the overall theme of the study (cf. Kvale 2001).

2.3 Analysis and interpretation

The 13 interviews were transcribed with an emphasis on detailed verbal reproduction. The transcriptions were individually coded, subsequently categorized in broader categories across the 13 interviews. Variation and specifically interesting instances were emphasized when deciding on categories, rather than generalizable patterns. These broad categories were then interpreted holistically, using an abductive approach (Alvesson & Sköldberg 2008). This means that the researcher, while searching for emergent themes, contiuously and reflectively makes comparisons of

'open' or modal improvisation, free form improvisation, a 'Nordic sound', folk music and electronic music. For more information: http://en.wikipedia.org/wiki/ECM_Records

different observations and hypothetical interpretations of the data, and that the interpretations successively are informed by the researcher´s preconceptions as well as theory and previous research.

3. Results and discussion

In this section I will describe and discuss the results from the study regarding practices that involved *copying.* By copying I refer to all kinds of listening actions that involve active and intentional internalizing of musical elements from listening to recordings. [5] In musicians´ daily speech, the term copying can refer to learning the framework of tunes (melody and chord progression), as well as learning improvised solos or other improvised elements such as comping figures, chord voicings, etc. I here refer to the latter meaning, i.e. learning improvised solos or elements.

The section is structured around three thematic aspects. The first aspect is *attitudes* towards copying as a learning practice, including reflections on perceived outcomes, potential shortcomings, i.e. the *why*- (or 'why not'-) questions related to copying. The second aspect is *the objects of copying,* i.e. *what* (or *who*, which performers) do they copy. This question includes whether there were any specific musical material or musical structures the students were going for, specific styles/genres or specific performers they were particularly interested in copying from. The third aspect is concerned with the actions involved, i.e. *modes of copying,* the *how* – question. The second and third aspect were closely related, and will therefore be presented together.

3.1 *Why copy?* Attitudes towards copying as a learning practice

As expected, there was variation in the degree to which participants in the study copied from recordings as part of their practising. Some students seldom copied explicitly, because they experienced it as time-consuming, hard work compared to the experienced outcome, or they only did it if it was an assignment given from a teacher. Still, most of the participants explained that they emphazised copying, and these students advocated it strongly. They explained how they used recordings to pick up different musical aspects from "*musicians who are better than me"* as Robert (pseudonym), a 1st year guitarist, put it.

5 Listening as such, without actively trying to internalize selected elements, is primarily not included in my use of the term here, though there are not necessarily sharp distinctions between copying and listening in terms of learning intentions and learning outcomes.

Such aspects could vary from technical skills of the recorded performer, ear training, rhythmic and tonal skills, stylistic phrasing, how the recorded performer utilized a particular chord progression melodically, or more general playing styles or concepts. Kristian, a 2nd year trombone player, described that the outcome of copying could be about "(...) *getting inside another person´s solo, how he builds phrases, and stuff*." Some students mentioned the *joy* of listening and liking a piece of music or a particular musician, and thus a desire to learn how to sound the same way as an important reason for copying at all. Georg, a guitar player in his 3rd year, explained: "*You get to understand how people have been thinking, people you like… how they have worked. How it has been done."* This quote connects with a point several students made, namely an urge to *understand* artistic intentions as well as the technical moment-to-moment execution of ideas, as a reason for copying.

Emma, a pianist in her 3rd year, explained the outcome she experienced by copying:

> *Well, you get everything out of it, (...) from a feeling of metric form, to follow harmonic structures, to feel the harmonies inside you, to learn to hear, to sing, to play lines with coherence and continuity… and play hip [laughs]. But you don´t become a better musician just by copying, right.*

In this quote Emma pointed not only to the skills she thought she developed through copying. Another central aspect for her was namely the learning of *creative* aspects of her own improvising, since she highlighted the more abstract and generic aspects of an improvisation, such as musical coherence and continuity, as learning outcomes. This point of view is consistent with the point Berliner (1994) makes about outcomes of copying. But the last sentence in the quote from Emma, implies that copying alone can have it´s insuffiencies in terms of learning to improvise: it is not enough alone. This leads to a closer look at a potential contradiction related to the practice of copying, the one between the overall motive of developing ones own style and voice, and sounding like someone else one has copied.

Interestingly, all the students who liked to copy displayed an articulated awareness of this potential problem. Vibeke, a saxophonist in the 1st year, said:

> *Why I find it important [to copy]? It has to do with finding your own style. Because, if I find Dexter Gordon´s solo on a certain tune incredible, then I just want to learn it, and then I can draw out from it what it was that made it incredible. (...) I will never sound like him anyway.*

For Vibeke, searching for her own style was actually the motivation for copying, which at first can seem paradoxical. Vibeke didn´t worry about sounding too much like Dexter Gordon, because when she played (i.e. improvised) herself, in her own voice, it never sounded the same as the copied performer or material.

Robert (guitar) problematized a similar case, when he explained:

> *Well, you don´t need to take something, and... like "he plays like this, then I will do it, too", but you can get ideas about how musicians better than me play, sort of.*

For Robert, the purpose of copying was to get ideas, not to apply pre-learned material directly in his solos. This point of view was also expressed by Ingrid, a 1st year trumpeter, when I asked her if she was worried that pre-copied material would 'come out' when she improvised herself:

> *No (...). I don´t think you should play a lot of [pre-learned] licks, like..."right, here comes* that *chord, so now I have to play* that *phrase". That´s not what you do when you copy and sing along.*

Georg (guitar) explained in more detail about why *he* felt he never sounded like someone else when playing:

> *When you copy that much different things (...), from different genres, you become a product of all of it. It won´t be similar to anything else. It´s different if you only copy one guitar player, with the same sound, and everything... and a lot of people have done that, especially Americans. They are often like blueprints. (...) I notice that I often use things I have copied. But in another tune and another setting. I don´t think that is a problem, because then it works as a stepstone to develop your own improvisation further, and if you hadn´t played* that *thing first*, *then you wouldn´t have gotten* that *new idea. So stealing from others, that is something I do light-hearted!*

Copying from *different sources* thus seemed like a precondition to avoid becoming 'blueprints', so did deliberately using copied material in different musical contexts. Several of the participants also displayed a highly *selective* approach as to what they chose to copy, when it came to which recordings, which performers, or which elements in the recordings or performers they picked. This aspect can shed light on the paradox presented by Vibeke (sax), that copying can enhance the development

of a personal voice, since the selectivity in *choosing* reflected their subjectivity and personal preferences. But the outcome of copying was not always under conscious control, as Vibeke pointed to: "*You also have the intuitive part, that if you have copied something, it can just "pop out" when you least expect it.*" When this happened she experienced it as a positive outcome, maybe because the "intuitive part" was felt like an expression of her own musical personality.

To sum up this section, the outcome of copying can be understood as two-dimensional. The first dimension is linked to acquiring *specific musical objects*, such as musical materials, patterns, characteristic elements of styles, i.e. the specific content inherent in the music they copy.

The second dimension has to do with more *generic procedural competencies*. This dimension of outcome seemed to be important for several of the participants, and can be linked to aspects such as training the musical ear and the ability to memorize as such; strengthening the sense of rhythmic time feel; gaining experiences with the act of creating improvised, e.g. improvising coherent melodic lines, or building up a tension curve during an improvised solo.

3.2 *What and how do students copy?* Objects and related action modes

As mentioned, the object of an activity or practice can be understood as the content or raw material the subject is working with. Objects that the participants revealed have already been implied in the previous section connected to perceived outcome, but in this section I will show further examples and go into detail. The study revealed, as mentioned earlier, that different objects the students wanted to work with were closely related to what I depict as different *modes of copying* on the action level. I will therefore describe the two categories *objects* and *actions* in relation to each other.

3.2.1 Detail-oriented copying: imitation and transcription

Detailed and meticulous copying was a practice some of the participants dedicated themselves to.

The objects that were in focus among the participants who indulged in detailed copying, were often related to analytic understanding of musical structures such as scales and chords. Hence, this copying mode was not common among the two drummers, but was more often used by the chord instrumentalists I interviewed.[6] I will give

6 Although I can not claim that this is a consistent pattern for all chord instrumentalists, since the number of participants was small.

an example from the interview with Emma, a piano player. She described a process where she wanted to copy a recorded solo by Bill Evans on the tune *Five,* that is built on Rhythm Changes.[7] The object was to depict exactly what notes he played, in order to see how Evans built a melodic line, and how he utilized the chord progression to do so.

In this solo Evans had reharmonized several chords, using harmonic progressions with SubV7-chords.[8] Melodically, Emma had trouble perceiving the exact notes in the solo. A solution became to analyze his use of scales, and by listening she found that he used a Lydian-dominant scale from the root F, which equals an Altered scale from the root B. After having established the scales, she discovered how Evans circled around the #11-note in the chords, and created a sequenced melodic motive around his chord note, using chromatics. Emma practised singing and playing #11-notes in different Dominant chords, to strengthen her perception of this particular note and the *character* it added. Her perception of Bill Evans´melodic improvisation thus became much easier, she explained. She then practised playing his phrases on the piano, and demonstrated it in the following way:

In his solo, right, he goes like this [Emma plays on the piano, while commenting]:

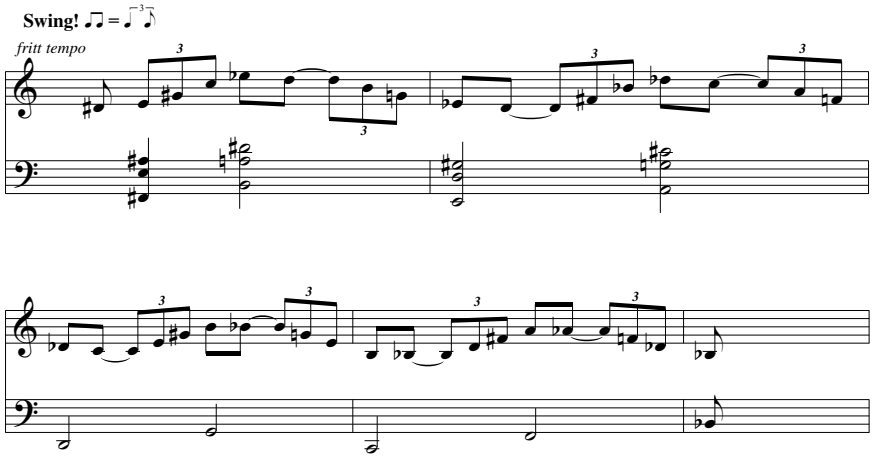

Fig. 1

7 *Rhythm changes* refer to a standard chord progression derived from Gershwin´s composition *I got rhythm*. Rhythm changes typically has a 32 bar AABA form, where the A section is built around a s.c. *turnaround* (a I-VI-II-V progression), and the B section consists of Dominant chords in a cycle of fifths.

8 A *subV7-chord* refers to a tritone substitute chord, i.e. playing a B7b5 chord instead of a F7b5, as the case was in this example.

And then, this can become an exercise in learning these scales, and then maybe choose a very simple melodic motive, and sequence it, descending:

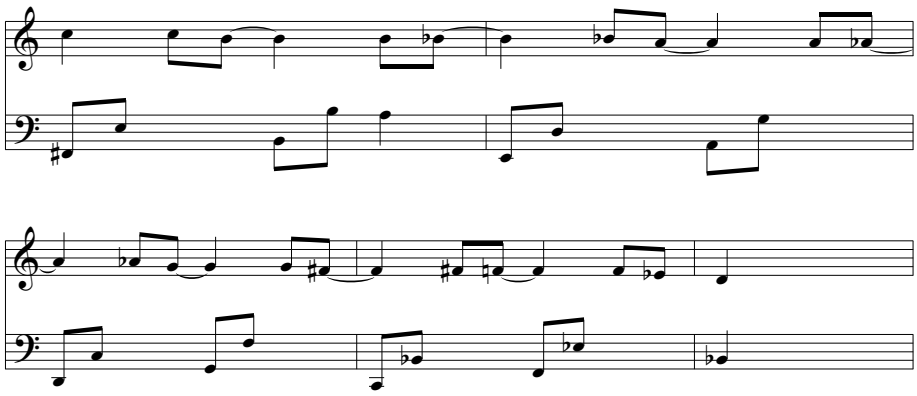

Fig. 2

You know, from #11 to root, to #11, to root, etc. But it´s just a chromatic thing, you can just as well play:

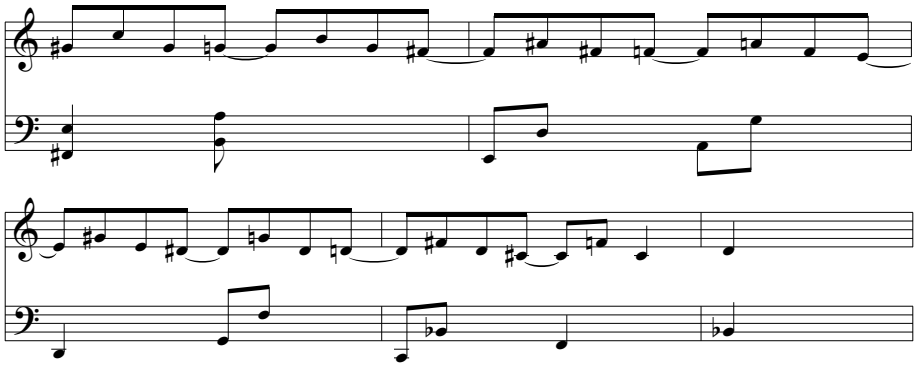

Fig. 3

This excerpt, showing how Emma demonstrated by playing, also clarifies a point Emma made in an earlier quote, when she stated that copying alone doesn´t make you develop as an improviser. It exemplifies how it is possible to draw generative

aspects from musical material, and use the principles that are derived to construct a melodic-harmonic exercise as well as an exercise in melodic-motivic development. Interestingly, Emma emphasized the auditive, embodied experience from copying, and she said: *"[I have to] have the solo in my ears, and my fingers, you know. (...) And then, the next time I come across an altered chord, it lies there, as an experience in my body."*[9] For Emma, the analytic-theoretical understanding seemed to be intertwined with the embodied experience related to chords and scales as objects, because the analysis created an access to *hearing* the #11 note and the actual scales, and thus learning the solo as a holistic and auditive experience. Further, this experience opened possibilites to an expanded analytic understanding of the building of motives from scales.

In some cases processes of learning from copying was self-initiated, while in others it had been an assignment given from teachers. Ingrid (trumpet) explained how a teacher instructed the ear training class to learn a solo from a recording: *"In this exercise we were supposed to sing along with the solo, then write it down, and then learn [to play it on the instrument] exactly as we had written it."* Kristian (trombone) described a similar procedure, where he often first transcribed a solo (wrote it down), and then learned to play it on trombone, as written.

Georg (guitar) copied a lot and often, but used an opposite procedure:

> *I sit with the guitar and learn the whole solo directly on the instrument. Maybe for three or four weeks. Then I write it in Sibelius, print it out, and analyze what is happening. I draw a little in the score, use colours, and so on (...)* .[10]

In the imitation phase he was very thorough in terms of phrasing and rhythmic nuances, but tried *not* to analyze and *think* too much. In the transcription phase, on the other hand, he analyzed the use of scales in relation to harmony. But then he was not too concerned with writing down detailed phrasing, as this aspect were 'contained' on the aural, embodied level when he sang or played it on the guitar.

Anders, a bass player, used yet another procedure, as described in the following quote:

> *The first step is to sing it, in pitch and time and everything,* perfect. *And this is the hard part, not to move to fast to the next step, which is to play it on the bass. But you must not play it on the bass too soon, because if I do, I will rehearse mistakes. And I really could be more thorough with the first step,*

9 An *altered chord* is a Dominant chord that has a b5 (#11), #5, b9 and #9 as options.
10 *Sibelius* is a music notation software programme.

because maybe I can hear it and all, but if I can´t really sing it, if I can´t do it ten times in a row, perfect [then I don´t know it well enough].

When Anders here so strongly emphasized the importance of singing the music before he took it to the bass, I understand it as an emphasis on using as auditive an approach as possible, given that the voice is so strongly linked to an inner ear. And unlike some of the other participants, he did not use transcription at all.

As we have seen, there were different procedures related to detailed copying. Holding together the excerpts above, they exemplify three different approaches to detailed copying, i.e. a *primarily auditive* approach (prioritizing singing and then playing); an *auditive-motor* approach (using the instrument to learn the material); and an *auditive-visual* approach (transcribing first, and then learn to sing or play the written material).

3.2.2 Concept-oriented copying: listening and playing

Typically, the drummers in the study displayed a practice I chose to label *concept-oriented copying.* The drummer Martin, 3rd year, gave an explanation of how he copied, which can serve as a definition: "*I never copy anything note by note. Instead, I try to pick up the concept of what they are doing, and the sound, maybe.*" Such concepts could refer to an overriding idea in the playing, choices in dynamic levels, density, and perceiving *typical* phrases more than necessary *exact* phrases from the performer one listens to.

Alex, the other drummer, in his 1st year, described a similar learning practice which was connected to the object, i.e. what he was interested in learning. His preferences when it came to drummer models were those who played in a loose and improvised style in their approach to comping others in a jazzband.[11] This, and the factor that improvised drumming not necessarily relates to harmonic progressions, makes copying challenging, as there are fewer 'cue points' related to form, in comparison with melodic instruments. I thus asked Alex how he mentally structured the music in order to memorize it.

11 By *loose style* I mean a drumming style with few repeated patterns, and instead continuous variations in accents and rhythmic figures. Jack DeJohnette´s playing is an example of this style within the modern swing idiom, and one of Alex´s favourites.

Guro (researcher): It´s quite difficult, isn´t it?

Alex: Yes, but it works, when one understands what they do. That there are a lot of repeated licks, and you recognize it quite easily when you have listened a lot. And you know approximately how they do it, maybe you have seen a video of how they play.

Since he repeatedly had listened to specific performers, he could recognize characteristics and patterns quickly, without having to decode every detail. From Alex´ accumulated experience in listening and copying in general, he was, in my interpretation, *sensitized* to common patterns. His experience thus consisted of cross modal impressions (Sloboda 2005), i.e. auditive, visual and motor related, which contributed to the holistic understanding.

Markus, a bass player in his 2nd year, seldom copied very detailed, but he listened a lot to bass players in order to pick up general aspects of bass playing:

I don´t mean exact notes, but more a kind of attitude *in the music. Because there is a big difference, e.g. in mainstream jazz, if someone tells you, like, "in mainstream, the bass plays quarter notes", between someone´s telling you, and actually* hearing *someone playing it. And how. (...) Through listening I´ve gained a certain perception of how it should sound.*

In this quote, Markus referred to the concept of playing *walking bass*. As a learning object, Markus did not link it to specific notes in isolation (on his level of musicianship, which was advanced), but just as much the phrasing/placing of the quarter notes in relation to a beat (which there is a specter of personal approaches to), and the creating of bass lines based on chord progressions. These generic aspects could be learned without having to copy exact what the performer played.

Alex (drums), higlighted an interesting point with regard to the relationship between the learning object, and the mode of copying. Earlier on he listened to drummers like Max Roach and Philly Joe Jones, and then he used to copy details a lot. These drummers can be characterized by the usage of stylistic patterns. Lately he had grown an interest towards jazz from the record label ECM, and he listened in particular to the Norwegian drummer Jon Christensen. Christensen´s playing style is known for being very free and loose (i.e., not following patterns or defined musical frames). By the same time Alex´s interest in Christensen and ECM grew, he had more or less quit copying. This new stylistic orientation was mentioned as an explanation of why he had moved on to a less detail-oriented and more concept-oriented listening.

Thus, this can be interpreted as a connection between the degree of improvisation and unpredictability in the performers´ playing style, and the character of copying mode. A concept-oriented mode is more relevant than a detail-oriented mode in free (or freer) improvised music.

The interview with Martin (drums), illuminated the action aspect of concept-oriented copying. As mentioned earlier, his copying was seldom detailed-oriented. In situations where he did listen to music, he seldom had access to his drum-set, as he mostly listened at home and the drum-set was rigged at the school:

> *When I listen to something [that I want to play], I really go into it and memorize it. And then, when I get back to the practise room, I remember the sound, and try to recreate it.(...) Try to use my own technique to make it work. Maybe it becomes something else, something similar but not exact. But it can still work and be interesting.*

It was not important to play exactly the same as the performers on the recording, instead he emphasized that his own physical playing technique and subjective memory led what he actually played. Due to the absence of his instrument in the listening situations, he relied on his memory and recreated the *concepts* and overall ideas that he memorized. This needs not necessarily to be seen as an approximate reconstruction to compensate for the lack of access to the drumset. Instead, in my interpretation, not only did his copying procedure strengthen his memory. Since revealing a general creative concept from a musical excerpt presupposes an advanced understanding, this procedure possibly also enhanced a deeper understanding of what Martin had listened to as well as activating his immediate creativity with the material.

3.2.3 Playing along: Improvising with recordings

A third mode of utilizing recordings for learning purposes is where the students put on the recording and improvise along with it. A couple of the participants reported that they used to practise like this, often in addition or a variation to the detailed copying. Ingrid (trumpet) was one of them, and she described it like this:

> *Ingrid: Sometimes I like to play along with records. Trying to imitate, and play with [them], as if I was there. I think you learn a lot from that. (...) I then try to react to what is played, and then play something that is similar, only slightly different.*

Guro: Do you feel that you learn as much from that, as from copying [detailed]?

Ingrid: Yes, definitely, because you pick up phrasings when you play along, and part of the tonal language.

When Ingrid copied in a detailed manner, as she expressed liking, she connected it to the learning goal of decoding and analyzing something exact, for the sake of understanding. Here, she displayed a different kind of learning goal, as I interpret it, that is to practise the *ability to react*. Simultaneously as reacting to the music, she tried to improvise close in style to the performers on the recording. In this way, a transmisson from the recording to her own playing took place, even though she improvised at the same time.

4. Conclusion

In this article I have wanted to give an account of the usage of recordings as learning tools and the practice of copying, seen as an integral part of jazz students' individual practising practices. In order to get insight into the values and norms embedded in this activity, and thus understand the meaning and motivation underlying the practice, questions were asked about perceived and expected outcome of copying, of which learning objects were focused, and of how copying was executed in its different modes.

With regard to learning outcomes, two dimensions were highlighted. The first was outcomes related to *objects, or content*, whereas the second was related to *generic procedural competencies*. When Berliner (1994) describes imitation as a central learning practice among American jazz musicians, he emphasizes the building of a 'repertory storehouse' consisting of musical motives, phrases and patterns, which I will connect to what I depict as the object/content related dimension. According to Berliner, the purpose of building a repertoir of phrases is to establish mental association between harmonic progressions and melodic phrases, and from that, being able to construct and apply phrases from this repertoir during an improvisation. This 'application theory' related to copying has been referred to in several writings.

The findings in my study indicate that, though direct application sometimes is the case, they also show that this is not the dominating desired outcome of copying. On the contrary, several participants emphasized that they did *not* apply 'ready-made', internalized phrases into associated harmonic contexts. Rather than leading to direct and concious reproduction when it comes to the musical content, copying can enhance the development of a *reflective meta-understanding* of real-time composition

and expression among the performers they copy, that on a longer term basis can be absorbed in their own expression and 'voice'. A precondition for a personal expressive development based on copying is that the learner must elaborate on and be creative with the learned material. Creative elaboration on and expansion of the object can thus enhance a generic procedural improvisation competency.

Based on the descriptions of concept-oriented copying, this mode can be seen as a form of indirect imitation, where the holistic impression of the music is what is emphasized and absorbed. There can be a distance in time and place between the listening experience and the recreation on the instrument, unlike the detail-oriented copying that often were executed with an immediate access to the instrument (in fact, the instrument was central in the working process). The abstract recreation of a subjective memory had an element of creating, which implies that there is an *incremental improvisation* involved in this copying mode.

The practice of improvising along with a recording can be seen as a (more or less) intentional learning practice where one involves ones creativity immediately in the imitation process – though this may sound as a contradiction-in-terms. This mode has similarities to the concept-oriented mode, as they both focus on playing within a similar, overall style and atmosphere without too much focus on details. A difference is that while the concept-oriented, as we saw an example of, can be detached from the listening act itself, the 'improvising along'-mode necessarily needs this connection in real time, due to the learning goal of practising *improvisatory reactiveness,* or response. Seen like this, and speaking in terms of the language metaphor (with reference to Wertsch 2007), playing along can be a way not only to learn phrases and grammar – the *content* of language – but also to learn *how to communicate with it.* Thus, the recording as a tool can be seen as a substitute for playing with fellow musicians or peers in an individual practise situation, without access to a band.

All three copying modes had elements of *improvising* connected to the course of learning actions. Generally speaking, I understand this element as a means to not only internalize the learning object, but taking it a step further, i. e. *personalizing* the object. I also suggest that the lack of detailed accuracy in concept-oriented copying and improvising along with recordings should not be seen as a lack, as stemming from laziness or interpreted as taking 'learning shortcuts'. Instead, they can be valued as constructive and intentional strategies to *practise improvisation* based on an existing aural source. With reference to the language metaphor (Wertsch 2007), recordings function as a cultural available 'pool' of musical utterances and conversations, where students subjectively and selectively pick and choose. They learn to express themselves personally through an immediate elaboration in a social zone of proximal development, with an indirect, suggestive guidance from recorded musicians.

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Learning strategies in ear training

Hilde Synnøve Blix

Abstract

The purpose of this article is to discuss learning strategies in ear training, and the aim is to explore how focusing on the ways the students learn can provide valuable information about learning and teaching ear training. The article will review present knowledge about learning strategies across fields of research. Literature regarding studies of strategies in music acquisition, and strategy use in expert performance will be described. It is argued that studies of learning strategies require more attention in music education research. The second part of the article discusses implications for teaching and learning ear training.

Keywords: ear training, learning strategies, music literacy, music dictation, music listening

1. Introduction

"They can but bringe horse to the water brinke, but horse may choose whether that horse will drinke" (English proverb). A basic goal in music education is to teach students to be self-sufficient in acquiring new skills and knowledge. In order for students to *"choose to drink",* they need to be able to regulate their own learning processes. One of the significant differences between a novice and an expert is whether or not they are approaching their goals efficiently and *strategically*. Research in different domains show that successful learners are strategic, and they engage actively and creatively in choosing and using strategies (Bandura 1986, Bråten 1996, Chamot 2004, Paris et al. 1983, Siegler 1996).

There is a general agreement in research that in order for students to plan and regulate their own learning processes they need a fundament of *knowledge*, *motivation* and efficient *learning strategies* (Alexander 1997). The three factors are regarded as interdependent, so if students for instance lack motivation, their learning strategies

would probably be less persistent. For music students, strategic behaviour is often directed primarily to performance on their instrument. This often means that other educational subjects such as ear training and music theory might have a lower priority; consequently the knowledge, motivation and learning strategies tend to be less focused in these areas.

Learning strategies are the thoughts and actions that students undertake to achieve a specific learning goal. Identifying and teaching what is known to be effective learning strategies is one of the most essential tools for the teacher in order to help students in becoming proficient musicians. This calls for the teachers' awareness of the students' learning processes, and ways to address these: "Good teaching includes teaching students how to learn, how to remember, how to think, and how to motivate themselves" (Weinstein & Mayer 1983:3).

Teaching strategies in ear training has had some attention both in the form of literature about teaching methods, and in research concerning ear training and sight-reading (Blix & Bergby 2007, Karpinski 2000). *Learning strategies* in music students' ear training practice is, on the other hand, quite rare in music pedagogical research (Lake 1993, Potter 1990).

The topic of this article is *learning strategies in ear training*, and the aim is to explore how focusing on the ways the students learn can provide valuable information about learning and teaching ear training. The first part of the article will review what we know about learning strategies across fields of research, and the second part will examine the implications for ear training teaching and learning.

2. What do we know about learning strategies?

The bulk of research on learning strategies shows that the use of self-regulated strategies plays a vital role in learning and developmental processes (Bråten 2002, Chamot 2004, Oxford 1990, Paris et al. 1983, Siegler 1996, Weinstein & Mayer 1983). Good learners use a larger number of strategies than poor learners, and they use them more effectively. Research also shows that strategic learners are better at choosing the most appropriate strategy in order to solve a given task. Strategic learning is embedded in developmental and instructional factors, and has strong connections to the learner's motivation and knowledge base.

Learning in this article is seen as active meaning-making processes, which implies that the learners participate and actively engage in their own learning procedures. From a socio-cognitive point of view, development of self-regulation is also regarded

as a process from imitation to independent problem solving (Bandura 1986, Bruner 1996, Dreyfus & Dreyfus 1986). In the last three decades, learning strategies has been considered one of the most prominent factors of self-regulated learning. Chamot (2004) sums up the characteristics of a good learner:

> Strategic learners have metacognitive knowledge about their own thinking and learning approaches, a good understanding of what a task entails, and the ability to orchestrate the strategies that best meet both the task and demands and their own learning strengths (ibid. p. 14).

Expertise studies show that strategic behaviour is best aided by the learner's knowledge about their own learning, and *metacognition* is a major research topic in education. In this regard, the teacher's job is to empower the students, and make sure they grasp the meaning of the tasks (Kletzien 1991, Strømsø 2001). In order to know how students think about their own thinking processes, the teachers need to have an explicit communication with the individual student regarding their thoughts on learning processes. We also know that a high level of expertise involves an enhanced awareness of one's own strategies. Successful music students are, for instance, highly strategic regarding practicing their instrument, and are well capable of reporting self-regulatory behaviour (Nielsen 1998).

2.1. Defining learning strategies

In this article, the term *learning strategy* is used for the "operations employed by the learner to aid the acquisition, storage, retrieval, and use of information" (Oxford 1990:8). The term *strategy* in research is still regarded "fuzzy", as it can contain different meanings and be used in different ways (Griffiths 2004). In the 1970's, the concept of strategy was mainly used to study the cognitive aspects of an individual's information processing. Today we see broader definitions that include social and cultural factors that affect the way learning strategies are categorised in different research areas. Definitions that take a broad view normally look at mental and physical behaviour in the light of social and affective factors (Oxford 1990).

Another issue is the *intentionality* of the strategies; is it a strategy only if it is a *deliberate* attempt to achieve a specific goal, or can strategies that are less purposeful be considered attempts to understand and acquire a skill or knowledge? Studying young children's strategies, for instance, would benefit from a definition of strategies that also consider less conscious actions as strategic (Blix 2012). In studies of strategies in ear training in university level students, on the other hand, a definition

of strategies should imply that the aim of the tasks normally demands conscious thoughts and actions.

Whether or not an action is strategic when it has become automatized is a related discussion in strategy definitions. Afflerbach et al. (2008) distinguishes between *strategies* and *skills* in language reading. When a behavioural pattern is automatic, it is considered a skill: "(…) the same action could be either a skill or strategy, depending on the readers' awareness, control, intention and the specific reading situation" (ibid. p. 369). When actions have become automatized, they usually are more difficult for the learner to identify and describe.

Because of these different aspects of definitions, it is necessary to clarify the term *strategy* in accordance with the individual research study, and also to differentiate between learning strategies in general and specific reading strategies, writing strategies and listening strategies, depending on the research subject. Common for most strategy definitions is that strategies are, at some level, directed at a specific goal, and that they are actions that the individual chooses in order to achieve the goal.

2.2. Factors that influence strategy use

> The skilled learner regulates the use of different procedures in order to achieve different learning results based on characteristics of the learner herself, and characteristics of the tasks (Nielsen 1998:2, my translation).

Factors that are known to affect strategy use are the learners' motivation, the characteristics of the task, the learners' background and learning style, the learners' task comprehension, and the ways strategies are chosen.

The way the students choose among strategies (procedure knowledge) is one of the factors that determine to what degree the students will succeed in their professional development (Kern 2000). To have an "arsenal" of different strategies and to use the most effective of them in different situations and contexts is considered a significant difference between good and less good learners (Siegler 1996).

Strategic learners that are able to use and choose from multiple strategies, and adjust the strategies according to different tasks, learn faster and better (Kletzien 1991, Strømsø 2001). Research also shows that *comprehending the task* at hand is a significant factor for choice and efficiency of learning strategies. If the learner is confused or indifferent about what the task really is, or what the aim of the task is, the learning outcome will probably be poor (Blix 2012). If an ear training student is not

sure whether the dictation task is about remembering the musical sound, or writing a proper score, it affects the student's choice of strategies.

Another factor that affects learning and strategy use is each learner's individual *learning style*. Both the learner and the teacher should acknowledge that we have personal preferences in our approaches to new knowledge and skills. Different preferences can contain sociological, physical, psychological, environmental and emotional elements. Thus, some students learn better by analysing in a quiet environment after a meal, while others prefer to work in groups and with a global perspective on the tasks (Dunn & Dunn 1999). Whether we prefer an auditory, visual, tactual or kinaesthetic approach is also found to differ from person to person.

2.3. Different research approaches to learning strategies

Across research fields, we see four main approaches to the study of learning strategies. First, we have studies that are designed to *identify* strategies that students or experts use (Jørgensen 1997, Oxford 1990). Second, there is a diversity of studies that aim to measure the *effects* of different strategies (Griffiths 2004). Third, some studies look at the effects of strategy *instruction*. Finally, studies on *strategy choice* have gradually become a focus of investigation (Nielsen 1998, Strømsø 2001). In ear training, there are to my knowledge very few studies that are set out to identify strategies, but learning strategies in music in general has been studied and discussed, some of which have implications for ear training practice (Blix 2012, McPherson 2005).

In language learning and mathematics, researchers and educators use standardized questionnaires to register what types of strategies learners use, and how effective they appear to be. Other methods of investigation are observations, self-reporting and interviews of informants, especially when strategy identification is the purpose of the study.

2.4. Taxonomies/classifications:

Today we see various ways of classifying strategy use in research. Depending on the field of research of the study, and the object and question of the study, researchers choose different strategy classifications. In studies of cognitive strategies, taxonomies distinguish between *cognitive strategies* (rehearsing, elaborating and organizing) and *metacognitive strategies* (planning, monitoring and regulating) (Weinstein & Mayer 1983).

Rubin's studies of language learning strategies represent an early strand of investigations of learning strategies (Rubin 1975). She identified six types of what she

called direct learning strategies: clarification/verification, monitoring, memorising, guessing/inductive inferring, deductive reasoning, and practice.

Deriving from Oxford's categories, a standardization of taxonomy has been developed in the second language research field, and a commonly used taxonomy of strategies in this field is affective, social, metacognitive, cognitive, memory, and compensation strategies (Oxford 1990). Compensation strategies are included as recognition of strategies that are not directly productive, but that can function as transitions towards better strategies. *Guessing* can for instance be considered a fruitful strategy for some purposes (flow, logical intuition, etc.), but in other cases be counter-productive (tests, playing concerts).

Today we see standardized questionnaires that are designed to investigate strategy use (SILL[1]) based on Oxford's taxonomy. In most cases, classifications of strategies have sub-categories that are domain-specific and applied in order to harmonise with both the features of the strategy users (age, skills and knowledge), and the tasks at which the strategies are aimed. Domain-specific strategies for adding two numbers in mathematics will for instance not apply in music dictation.

In music learning, there is a thread of research that investigates rehearsing strategies (Hallam 1997, Jørgensen 1997, Nielsen 1998). Several of these studies use strategy categories based on attuned versions of Weinstein & Mayer's taxonomy. Categories in these studies focus on the students' proficiency in analysing, planning, executing and evaluating tasks (Weinstein & Mayer 1983).

Jørgensen (1997, 2004) differentiates between task-specific and task-independent strategies, and proposes a taxonomy for practice strategies that is based on an assumption that practicing an instrument can be viewed as an analogue to teaching. Jørgensen proposes the following classification of practice strategies: a) planning and preparation strategies, b) executive strategies, c) evaluation strategies, and d) meta-strategies (strategies where the aim is to develop and monitor strategies) (Jørgensen 2004). The self-teaching phases *planning/preparing, execution and evaluation* can readily be applied to ear training practice.

2.5. Learning strategies in music research

One of the challenges in strategy research is that the strategies the students use are not always visible. In ear training practice, a student might *say* that she is memorizing a melody by analysing it in accordance with harmonic structures, etc., but how

1 SILL (Strategy Inventory for Language Learning) was developed by Oxford (1990), and is used in research studies of language learning, and in educational mapping of strategy use.

can we be sure that this really is the case? In order to gain knowledge about how music students learn, different research designs have been used to study strategic behaviours. Nielsen (1998) performed a case study of two advanced level organ students that reported their learning strategies in practice sessions. The students were observed while practicing, and in addition, they reported their thoughts on how they approached the music in order to improve performance. The findings showed that the students were proficient in setting goals, planning strategically, self-instruction and monitoring their own progress (ibid.).

We also find a few studies that look at children's learning strategies while learning to play an instrument. McPherson (2005) performed a three-year longitudinal study of the manner in which children (age 7-9) acquire musical skills in their instrumental training. The aim of the study was to look at the mental strategies the children used, and the amount of practice each child performed. The results showed that the quality of the mental strategies that the children used during their first years of training served as a significant explanation for the fact that some children succeed and some fail in instrumental training (McPherson 2005:5). Observations, interviews and records of practice hours constituted the fundament for analyses of use and quality of mental strategies. McPherson found that the quality and refinement of the mental strategies the children employed was essential for their musical development.

> It is proposed that a more coherent explanation of learning to perform on an instrument comes from understanding what children are thinking as they process music visually and aurally, and that the sophistication of their mental strategies provides an important means of understanding why some progress effortlessly in contrast to others who struggle and fail (ibid. p. 31).

The strategies McPherson found were categorised according to the different tasks used in instrumental training and were organised in five main categories:

- Organisational strategies (keeping track of what is to be learned, decide the most effective order of practice tasks)
- Improvement strategies (practising to improve, self correction strategies)
- Sight-reading strategies
- Playing from memory strategies
- Strategies for playing by ear

The last two categories were each divided in conceptual, kinaesthetic and musical strategies, where the musical strategies seemed to be the most productive. The

children that used musical strategies were capable of linking the sound of the melody to the instrument by mentally rehearsing it, and showed a capacity for coordinating ears, hands and eyes. It is important to notice that the taxonomy of strategies was closely connected to the specific learning context and the age of the informants, and to the different tasks that playing an instrument involves.

The PhD-project *Emergent music literacy* is another study that focused on young instrumentalists' learning strategies (Blix 2012). The study was designed to identify learning strategies that young beginners on music instruments used to acquire music literacy. Four cases formed the empirical basis for the study: two flute students and two trombone students (age 7-8). Observations and interviews were conducted over a period of nine months. The findings suggested that children differed to a large degree in their strategy choices, and that the individual student relatively seldom changed the preferred types of strategies that they tended to use during the observed period. This implicated that in order to change strategy use, there is a need for an extra effort, and a possibility to practice these strategies in context. In addition to cognitive, social, memory and listening based strategies, a great deal of support strategies that the children used to compensate for lack of knowledge and task comprehension were also registered (Blix 2012). Of relevance for ear training is both the discussion of the connection between the musical sound and the written music, and that strategy use is a skill that needs to be consciously made and explicitly practised.

Research on *practice strategies* in music performance is a field that has provided knowledge of how experts plan and monitor their learning processes (Hallam 2001, Jørgensen 2004, Nielsen 1998). Some of these studies also discuss strategies related to ear training as a central part of practice strategies while preparing for music performance (Hallam 2001):

> The findings indicated that effective strategy use in practice depended on the acquisition of appropriate aural schemata to facilitate the monitoring of progress and correction of mistakes. Strategy development was closely related to the developing level of expertise (ibid. p. 7).

In the book *Musical Excellence*, Thompson and Lehman (2004) discuss sight-reading and improvisational strategies. They review research on sight-reading and improvisation, and propose ways to address the two skills strategically. They stress the importance of knowing the style according to which you are supposed to read or improvise. This knowledge can be acquired through listening, playing and reading the style in question, analysing and reflecting upon characteristics of the music. They also recommend that one prepare for reading by looking through the music before

playing. For improvisers, they emphasize the importance of "having a large stock of style-specific knowledge" (ibid. p. 151). They also recommend *singing* as a way to acquire a *knowledge base*:

> A common frustration of learning to improvise or sight-read is having a strong idea of what you wish to play, but being unable physically to find the notes. Ultimately, of course, perceptual and cognitive skills will have to meet with motor skills in order to produce a successful improvisation or sight-read performance. (…) Try sight-singing, or singing an improvised melody line (ibid. p. 154).

Literature concerning learning strategies in music education is often aimed at advising students and teachers how to learn and teach effectively through strategic behaviour. Strategies suggested by ear training teachers, and instructional literature, focus on developing general music acquisition skills, represented by both general and specific approaches to different areas in music learning.

3. Implementing learning strategies in ear training practice

It takes a lot of effort to learn something new, especially to change habits that are related to practical tasks. Many adults have the habit of counting on their fingers when they are adding numbers, especially when they are supposed to respond fast and accurately. They do not really trust calculating in their head, even though it works fine. Intellectually, we know that this is a strategy that takes time and is less effective than retrieval, but in the midst of a stressful situation, this seems to be a safety net for the addition skills. In ear training lessons, we often see the same type of compensatory strategies used by students, and which results in slow progression and musical development.

Students that are used to a specific way of thinking and acting when they approach music can have a hard time changing their habits and trusting other strategies to be better. Moreover, even if they know that there are better approaches, it demands much effort to convince themselves to change tactics. The students "inherit" some strategies from previous learning contexts, without considering the quality of the strategy:

> (…) strategies may be *adopted* by teaching musicians and passed down to further generations without questioning whether these strategies are *adapted* to the needs of their students. Consequently, it is an important task

> in the education of instrumental teachers to support student's conscious awareness about their own strategies (Hultberg 2008:9).

Ear training consists of many different tasks and goals, and calls for task specific strategies. It is crucial when we discuss learning strategies in ear training that we are aware that the tasks need to be well defined, and the purpose of the tasks must be explicit.

In 2012, we carried out a project where ten students at a music conservatory were asked to report strategy use in music dictation (Blix 2012, unpublished). The students received e-mails including a midi-file containing a short piano piece (fig.1). They were asked to write down what they heard, listening as many times as they wanted, and, in addition, to monitor their own learning processes. The students were asked to consider the following questions during the assignment:

1. Transcribe the piano piece you hear.
2. When you solve this dictation task, consider the following:
   a. Register what kind of strategies you use to solve the task.
   b. Describe the strategies.
   c. What kind of strategies had effect, and which strategies did *not* have an effect?
   d. Did it have any effect on the work process that you were conscious about your strategy usage?

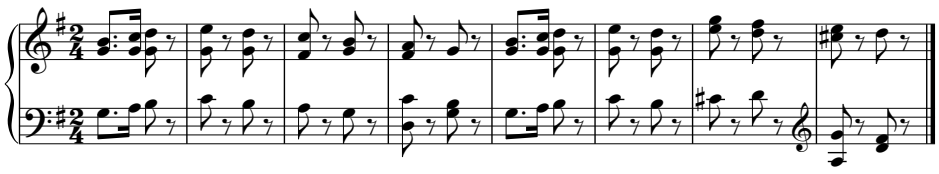

Fig.1: R. Schumann: Soldiers March from Album of the Young Op. 68 no. 2.

Prior to the assessment, the students had discussed learning strategies and practiced different approaches to dictation exercises. The written answers from the students varied in insight and level of detail, but all the students reported an altered focus on their own approaches to this type of task. The students received the score after they had performed the task in order to evaluate their own results.

Student 1:
Most of the time I listen to one voice at the time, and I do not think about the harmonic structure.

In general I don't think about the harmonic structure, because I'm not used to that, but I realized during this assignment that hearing the chord progressions would have helped me.

I found that it was helpful to have a plan for *the way* I approached the task. It helped a lot.

Student 2:
I sing and try to find structures in the melodies that "make sense".

I wouldn't say that the strategies didn't work, but there are certain strategies that I don't quite master yet.

It's definitely helpful to know what procedures I should use. Very smart.

The students' reports showed that there was a discrepancy between the knowledge of good strategies and the tendency to use them. This indicates that acquiring effective strategies requires practice and repetition with special focus on each of the different approaches in order for them to be internalised (Blix 2012, Jørgensen 2004).

This type of *reflective writing* had further strategic consequences because the students were invited to bring metacognitive strategies to the table (Bråten 1996, Jørgensen 2004, Nielsen 1998, Siegler 1996). The experiences from the project indicated that reflective writing would be an advantageous teaching strategy also in other parts of music education (Davidson et al. 1995).

The students also reported which of the strategies was not productive. Some of them concluded that listening to one voice at a time, or just listening many times, did not really work. One of the students said that he used his instrument too much, so he did not really feel that he had *heard* the music he wrote.

The majority of strategies were of a cognitive nature, with emphasis on structural listening. The students reported attempts to analyse and make sense of the structures of the music. They also made meta-cognitive reflections of their own strategy use, often comparing them with strategies they had learnt in class. The results of the project correspond with Potter (1990) who studied successful dictation strategies in skilled musicians, and Lake (1993) who performed a study of music students' interval and scale-degree strategies in melodic perception. Both studies conclude that flexibility in strategy use is important, but the choices the individual student make within the range of useful strategies must be conscious and task appropriate.

In the following, I will discuss learning strategies in ear training, using the main categories from Oxford's taxonomy as a point of departure, but with additional subcategories adapted to the specific tasks and aims of ear training and music education.

3.1. Cognitive strategies

Cognitive strategies are approaches that relate to the way the learner administrates their own learning. This includes strategies such as analysing, comparing, chunking, verbalising, and looking up information. Analysing musical structures is emphasised in several studies as a main strategy for many different musical tasks (Hallam 1997, McPherson 2005, Nielsen 1998, Wolf 1976).

Examples of cognitive strategies used in different ear training tasks are *analysing* musical sound in terms of theoretical categories (chord names, musical form, rhythm structures and scale degrees), or analysing notated music in order to improve performance. Wolf (1976) found that scanning for familiar patterns was one of the most prominent differences between good and less proficient sight-readers. This includes anticipating what comes next in order to keep the flow of reading; this also requires an adequate theoretical knowledge. Other tasks that benefit from the use of cognitive strategies can be intonation, improvisation and writing music.

Some students report that they are aware of the cognitive strategies they may use, but still use ineffective compensatory strategies such as guessing or avoiding the problem, especially in stressful situations.

Many ear training teachers would agree that a majority of the strategy instructions given in ear training practice focus on cognitive approaches. To be able to develop your inner ear, you need to relate to some type of analytical process that enables you to decode and structure what you hear or see.

3.2. Auditory strategies

Auditory strategies concern the ways we strategically approach music by listening in different ways. Strategies that involve different ways of listening can be observed in many parts of music education, and in ear training lessons these strategies can be addressed without having an instrument on which to concentrate at the same time. Auditory strategies can involve moving your body to music, listening to different aspects of musical sound, listening to your own performance, discriminating sound in different ways, and listening several times in order to establish an inner "imprint" of the sound. In language learning, children read aloud the first years of learning in order

to establish an inner reading voice. Singing aloud might also be considered an auditory strategy if the goal is to establish an inner voice as a result of the singing exercises.

In ear training lessons, there is also a call for tasks that initiate intuitive responses to musical sound in order to practice listening skills. Sight-singing together with accompaniment is considered useful in this matter; the task can be to just "go with the musical flow", and then the strategy is related to *auditory strategies* as the listening is directed to the accompaniment.

The notion of *audiation* introduced by Gordon (1997) focuses on the connection between auditory approaches and cognitive strategies. "(…) when you are audiating as you are listening to music, you are summarizing and generalizing from specific music patterns you have just heard as a way to anticipate or predict what will follow" (Gordon 1997:5). Thus auditory strategies in ear training normally focus on ways of audiating in order to make use of the auditory feedback when performing:

> Successful performances can only be attained if the performer can structure significant units of information during processing and maintain a clear representation of the sound to which the performed sound can be compared in order to administer necessary performance adjustments (Banton 1995:15).

Focussing on what we really *hear* is demanding in many parts of musical life, and for music students, these are crucial skills that need to be practised. In ear training, the weight on tasks that requires cognitive strategies are often in the foreground, but tasks that focus on good auditory strategies are as vital and should be practiced systematically.

3.3. Metacognitive strategies

Metacognitive strategies are strategies that concern the way the learner reflects upon their own learning and thought processes. When the students in the mentioned dictation project explained how they evaluated their own thought processes, and how they could change their strategies, this was considered metacognitive behaviour. In order for a strategy to be metacognitive, it has to be focused on goals that are of a general character, such as strategically focussing attention towards your own learning processes.

Writing a journal or talking about how you plan to learn can be effective ways to be strategically aware of your own learning. A journal can contain reflections upon practice, evaluation, thinking processes, references to literature about learning or plans for the ways you will approach learning in the future.

Choosing the most effective strategies according to an assignment requires an evaluation process that requires metacognitive effort:

> In order to select a strategy as the appropriate one to apply in solving a particular problem, the individual must understand the strategy, understand the problem, and understand how the problem and strategy intersect or map together (Kuhn 1988:237).

3.4. Social strategies

Social strategies are actions that involve interaction with other people, such as asking for help or creating collaborative learning contexts. In my experience, students learn better if they are sitting close to each other in the classroom where they are able to help each other during the flow of the lessons. Misunderstandings can be cleared up, and knowledge can be exchanged. Some students ask many questions, and learn from them, while others have to be taught this type of strategic behaviour.

Seeking assistance from a teacher, asking questions for clarification or facts, or seeking peer assistance, for some students must be learned. Collaboration with peers can contribute to relieve tension and increase motivation for some students. Peers might understand the problem in different ways than the teacher, and might explain in other terms. The teacher should initialise these types of social strategies in the ear training class; thus empowering the students to create their own learning environment.

3.5. Memory strategies

Memory strategies are strategies that entail ways of memorising music. Many students report difficulties with memorising musical sound, not only in ear training. As future musicians or pedagogues, the ability to memorise music is regarded as an important skill. The tasks can vary from learning a piece by ear, playing from memory, or memorising a score.

Hallam (1997) conducted a study of strategies for memorising music. She asked 77 music-performing professional and novices about the different ways they undertook the task of memorisation of music for performance. Her findings showed that the learning processes normally were based on combinations of aural, kinaesthetic, and visual strategies. The professional musicians used analysis of the music to assist the memorisation processes. The novices tended to use few analytical strategies, and to

a larger degree use repetitions in order to memorise. Performing from memory also has anxiety issues, which was also addressed in Hallam's interviews.

In ear training, a main concern is how we can help students develop better strategies for memorising music. Recommended strategies often focus on chunking of familiar patterns, notating, visualising, fingering (pretending to play your instrument), singing and analysing the music. There should also be an explicit focus on the students' awareness of what strategies they use, and which of these are productive. These may differ from student to student according to each individual's preferred learning style.

3.6. Compensatory strategies

Strategies that enable the learner to compensate for limitations in knowledge and such skills are often referred to as *compensatory* strategies (Green & Oxford 1995). Guessing or other actions that are considered easy ways to solve the tasks may disturb the progress of learning. If a student uses fingerings on her instrument in order to remember a melody, this might be considered a compensation for poor auditory memorisation skills, if the goal is to memorise by ear.

On the other hand, there are several musical situations where guessing and taking chances are productive musical strategies. Thompson and Lehman state that in both sight-reading and improvisation one relies, to a certain degree, on qualified *guessing*. Anticipating what happens next, and then taking a chance, can also be regarded as a useful strategy in the development of musicianship (ibid. p. 155).

3.7. Affective strategies

Nielsen (1998) showed, in her study of music academy students, that self-efficacy is a significant factor regarding the students' cognitive and metacognitive involvement in their own learning processes. In ear training, *self-confidence* is an issue that can emerge across all levels of proficiency as musicians. For some students, ear training lessons can be experienced as stressful and uncovering of lack of musicality. Strategies directed towards mastering affective factors such as stress connected to tests, other students' opinions, or own musicality, are helpful in both ear training and in general as a musician. Practising for tests by imitating the test situation (being in the actual room, or having a critical listener) can be useful strategies in order to reduce stress.

Affective strategies can also be used to project positive feelings of musical flow, or actively using music one likes in ear training practice. A student can also use positive experiences with musical achievement in order to acquire a good ear.

The affective strategies must be seen in close relation to social strategies in ear training, as social behaviour requires self-confidence in order to approach other persons and to admit the need for help or instruction. Findings from language learning show that focusing on stress reduction, self-rewarding and self-encouraging can significantly increase the learning outcome (Green & Oxford 1995). It might take a lot of energy to manage feelings of imperfection and stress in ear training lessons, especially since it is a part of your education that is not the primary focus, but still is often perceived as a major part of your musical identity. These types of strategies have received relatively little attention in strategy studies in music.

4. Coda

A good teacher, good ear training lessons and good learning materials do not necessarily make the student better at inner hearing or at memorising music. "Even with the best teachers and methods, students are the only ones who can actually do the learning" (Griffith 2004). The effort that the student puts into the learning is as vital for learning as the teaching methods. The teacher's job in this regard is to facilitate the processes that help the student actively seek advice, methods and motivations.

The learner does not automatically apply new strategies just because the teacher says how the tasks best can be acquired. There can also be a discrepancy between the teacher's perception of what strategies are taught and the students' opinions of what strategies they have learned (Strømsø 2001). Explicit strategy instruction and practising the strategies are required.

In ear training classes, the students also need to have an awareness of the connection between the ear training practice and their musicianship in general. Ear training lessons normally aim at providing students with tools for developing "a good musical ear". More specific goals might be to be able to memorise music, to write down what you hear, to have a good *inner hearing*, and to be a good sight-reader.

> By investigating not only improvements in playing skill but also in students' acquisition of cyclical self-regulatory processes, music teachers will have much better sense of whether students can practice effectively on their own and whether they are being self-motivated to continue their musical development (McPherson & Zimmerman 2002:344).

Areas where future research may provide new and supplementary knowledge in ear training practice are numerous: What strategies do students actually use? What strategies do experts use, and what can we learn from them? What strategies in ear training do really have an effect on the development of a good musician or music teacher? How can we be so sure that the strategies teachers recommend really are the best for the students, and how do we recognize individual differences in order to adjust and differentiate our teaching?

This article has examined a series of issues in learning strategies in ear training that are vital for guiding students to be capable learners. Even though we have scientific knowledge about many aspects of learning and teaching strategies in music education, many areas still remain to be investigated.

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Broadening the notion of aural skills through peer learning, instruments and student-framed assignments: a course with music performance students

Lotta Ilomäki

Abstract

Aural-skills educators are increasingly subscribing to a broad notion of musical 'hearing', which recognises both formal and informal contexts of musical learning. The role of musical instruments has also garnered increasing attention, as well as open-ended types of musical tasks, which invite the students to explore different solutions rather than to pursue single 'correct' answers. Such development is also connected to wider discussions on future musicianship, which suggest the inadequacy of too fixed curricular contents, and emphasise students' readiness to accept challenges and develop into lifelong learners.

The present article describes a pedagogical project that developed ways to integrate peer learning and the use of the students' instruments or instrumental repertory into regular aural-skills learning in higher education and to involve the students in the design of their aural-skills tasks. The text maps some of the theoretical underpinnings of the project and describes a course for music performance students. Building on previous practitioner research projects, the course sought to develop practical solutions that support a broad view of musical awareness and musicianship. The text describes the teacher's experiences of the course as well as some challenges when moving from a tradition with fixed aims and precisely framed exercises towards a pedagogy that gives more responsibility to the students in framing their aural-skills practice.

Keywords: aural skills; ear training; peer learning; action research; curriculum development

1. Introduction: aural skills and future musicianship

The aim of aural-skills education is to support music students in developing their aural awareness of music and their music literacy.[1] As a subject that belongs to the first years of higher education in music, aural skills is likely to contribute to the students' ideas of what it is to study music professionally. It is therefore important to consider what ideas and values of musicianship aural-skills education conveys to students who should develop into future musicians.

Future musicianship has indeed been a central topic of discussion in institutions of higher music education. The rapidly changing cultural world calls for musicians who will be capable of responding to new types of professional demands and actively create opportunities for music in the society (Smilde 2009; Sloboda 2011). The discussion has also addressed the need to cultivate aural and musicianship skills that would enable musicians to respond to the growing stylistic diversity of music (Leong 2003) and to communicate with audiences (Sloboda 2013).

The last decade has brought about major developments in the field of aural-skills education. The music studied in aural-skills courses has become more authentic and inclusive in terms of musical styles, and teachers are increasing employing the students' instruments, playing by ear and elements of improvisation (e.g. Blix & Bergby 2007; Bannan 2010). By broadening the students' musicianship beyond traditional instrumental performance skills, modern aural-skills education seems to offer the type of breadth that serves to strengthen musicians' response to future challenges.

Yet, formal music education still easily conveys a 'hidden curriculum' wherein aural skills are about responding to externally set demands, rather than a part of the students' personal musicianship that they will develop through their own active choices, interests and habits of musical action. Frequently, too, the students are first expected to go through large amounts of traditional contents before their artistic development can begin –which involves the risk of constantly expanding curricula (Cox 2007).

The present project is rooted in the idea that aural-skills education should develop from an attempt to develop fixed and pre-determined skills into the cultivation of an active, questioning and listening relationship to music and its structures. To meet the challenges of future musicianship, the students should learn to develop their aural awareness themselves. Furthermore, they should also be given the possibility to share

1 I use the term *aural skills* (also *ear training* or *gehör*) for a formal subject and formally taught skills, and *aural awareness* for the broader variety of ways wherein people aurally perceive, anticipate and remember music in connection to their musical activities. I also refer to the term 'hearing', in quotation marks, to suggest that such skills involve many other domains of experience besides the aural (see section 3). (For international terminology, see Ilomäki 2011: 12.)

their learning processes with others and thereby become increasingly aware of the possible richness and breadth of musical awareness.

2. The practitioner–research project

This article is based on a practitioner-research project with two teachers and 16 students at the Sibelius Academy, Finland, spanning the academic year 2012-2013. We explored how we can incorporate small-group work and the use of students' instruments into a regular aural-skills use at bachelor's level, and how we can involve the students in framing their aural-skills tasks. For the students, the course represented a somewhat new approach, which led us to discuss how underpinning pedagogical ideas are translated into educational practice. I acted as the teacher responsible for the course, and also took responsibility for the research. My colleague, M.Mus. Elina Haapamäki, taught part of the course and critically followed the small-group work and the use of students' instruments.

The project can be regarded as one action cycle[2] that continues the work that we have previously done at the Sibelius Academy on instrumentalists' aural needs (Becker-Gruvstedt 2009; Ilomäki 2011) and the development of collaborative learning in aural-skills groups (Ilomäki 2013). I will take here a limited view of the project, based on selected data, and address the following research tasks:

- to describe, from my teacher's perspective, the process of incorporating peer learning and the use of students' instruments or instrumental repertory into a regular course at bachelor's level and encouraging the students to participate in the design of their aural-skills assignments
- to describe and reflect on some challenges while seeking to convey to the students a broad conception of aural skills, and how we worked on the challenges in the course.

The participants studied the viola (4 students), cello (4 students), percussion (2 students) and violin, clarinet, horn, harpsichord and kantele (1 student each). The course, called 'Aural skills B', was the second of two aural-skills courses belonging to the bachelor students' programme, but students could start directly at this level if they had previous studies at professional level. The group involved five first-year

2 Cyclical action-research models involve the idea of alternating action and reflection phases; see e.g. Elliott (1991: 69–71) and Altricher, Posch & Somekh (1993: 6). For criticism of the models or their use in research projects, see e.g. Somekh (1995: 342), Noffke & Somekh (2005: 91) and Cain (2008: 308).

and six second- year bachelor students, one exchange student and four who had for various reasons prolonged their aural skills studies. We met 28 times between September 2012 and April 2013, each meeting spanning 90 minutes.[3]

The course covered post-tonal melody and harmony, polyphonic and harmonic structures in tonal music (part writing, choral singing and harmonic analysis), score reading and rhythm study (e.g. changing metres). The curriculum suggests a flexible approach to these musical contents and encourages the use of the students' instrumental repertory.

Practitioner research, which I conceive here as a sub-branch of action research, combines the pursuit of practical development with a search for a deeper analytical understanding of one's professional practice, its underpinning beliefs and values (Altrichter, Posch & Somekh 1993: 203–204; Cochran-Smith & Lytle 2009: 45). Principles that I consider particularly important here are the pursuit of critical reflection of our own practice (Ilomäki 2011: 106–110) and the development of data-driven questions (ibid. 109). An important source behind the present project is the work of James McKernan (1996; 2008), who has advocated what he calls "the process-inquiry model for the design of curriculum" (McKernan 2008: 84). According to him, curriculum should be conceived not as a fixed description of contents and expected outcomes, but as a well-planned process for students' and teachers' construction of knowledge, insights and dispositions.

I focus this text on my teacher's viewpoint in the spirit of a self-study (Noffke 2009: 15-16), and pursue a critically reflected description that has been informed by my gathering of data from the students and the possibility to get feedback from Elina. I also had the opportunity to share examples of my data with fellow researchers at the Sibelius Academy.

I informed the students about the research at the beginning of the course and invited them to contribute to the development of the new models of working and to share their viewpoints on a voluntary basis. After the course, all the participants gave their permission for the use of their data in the research.[4]

For the present text, I draw on the following data:

- my research journal, written correspondence with Elina and notes on our spoken conversations

3 Of the 28 meetings, I taught 19 and Elina taught 9. We were both present at two meetings. Additionally, we arranged two meetings with students who completed some of their assignments later, and I also received some written transcription afterwards.

4 The research project has been approved by the faculty of classical music at the Sibelius Academy. The Sibelius Academy has also committed itself to the guidelines for the responsible conduct of research set by the Finnish Advisory Board on Research Integrity, http://www.tenk.fi/en .

- Elina's observation notes on the students' small-group work
- my lesson plans, course materials and written course assignments for the small-group sessions
- the e-mail correspondence wherein the students presented their plans for the optional assignments (see section 4) and my comments to them
- the students' written and verbal feedback at different stages of the course

In the following, section 3 maps some theoretical principles behind the project, and section 4 describes the progress of the course from my teacher's perspective. Section 5 is based on selected findings from the project and describes the process whereby we negotiated some assumptions on aural-skills learning with the students.

3. An action-oriented perspective on aural skills

Aural-skills education has a very classroom-oriented tradition, which has emphasised the development of specific musical skills through sequentially ordered activities and materials. Even though the activities of aural-skills course have become richer and more varied than before, aural-skills pedagogy still often seems to rest on the belief that the skills and knowledge that future professionals will need could be predicted and organised into rather fixed curricula. However, recent discussions on higher education have heavily challenged this assumption, and emphasised the need to educate the students into life-long learners who would be able to face new challenges and to be responsible for their own learning (Barnett 2007; Smilde 2009).

The dichotomy between developing skills and knowledge and preparing students for the unknown future, however, erodes if conceiving musical skills themselves in a way that is dynamic. The present project approaches this task through what I call the *action-oriented* concept of the human mind: one that views human thinking and perception as being rooted in the constant interaction between people and their environment. From this perspective, aural-skills learning entails the development of a constantly evolving relationship between the musician and the environment – not the gathering and storing of knowledge and skills. I have articulated this approach to aural skills in more detail in my doctoral dissertation (Ilomäki 2011), drawing on the philosophy of John Dewey, its applications in recent music education philosophy (e.g. Westerlund 2002; Määttänen 2005; Väkevä 2012) and some cognitive research that shares a similar approach to the human mind (e.g. Lakoff & Johnson 1999; Johnson 2007).

From the action-oriented perspective, the production of musical sound by singing and playing leads musicians to develop habits of action that sensitise their perception to different dimensions of music and also to enable them to anticipate musical patterns and structures. Through sound-producing actions, they learn to connect action with expected musical sound and anticipate, for example, how certain phrases will sound if played or sung. If the musical actions involve instruments, notation or other written symbols, the musical patterns also get visualised and displayed outside the musician's body. With experience, musicians can learn to connect musical notation, chord symbols or instrument positions to expected sound and mentally 'hear' the musical patterns that will result from certain actions – even without overt action and audible sound. For example, they can learn to anticipate the melodic patterns that will result from certain pitch combinations on an instrument or staff notation.

From the action-oriented perspective, much of the control and discrimination that characterised experienced musicians' perception and imagery of music is actually derived from the different habits of action that the musicians have learned to connect with anticipated musical sound. Therefore, people who have learned different habits of musical action are not likely to 'hear' music in the same way. (Cook 1990; Downey 2002; Ilomäki 2011, 55–70.) For example, different instruments are likely to lead their players towards different perceptual tendencies by their very physical properties, but also through the different cultural habits whereby musicians have learned to use them. In keyboard instruments, pitch gets displayed in a highly visual and categorical way, whereas such instruments as the horn offer little visual coordinates for pitch but instead a rich range of possibilities in terms of intonation (see also Becker-Gruvstedt 2009). There are, however, great differences in the perceptual tendencies of even pianists, or other representatives of a single instrument, which seem to be connected to how they have learned to act with their instruments – for example play by ear versus only from scores.

By paying attention to habits of sound production as a basis of aural-skills learning, it is possible to understand processes of aural-skills learning both in classrooms and the many occasions wherein musicians develop their aural skills outside formal education. If needed, aural-skills teachers can provide students with the focused practice of selected dimensions of music, but they can also build a learning environment wherein the students can broaden their musical habits, reflect on their previous ones, and also be encouraged to develop the 'habit of changing habits'.[5]

In practical teaching, the action-oriented perspective has led me to explore different ways to engage the students' tacit bodily experience of music and to connect this

5 The notion of 'habit of changing habits' by pragmatists belongs to the thinking of American pragmatists, see e.g. Bowman & Frega (2012: 35).

awareness with notation and other symbols. Besides singing activities, I have explored different ways of using the students' instruments to enhance their aural awareness, as well as different improvisation activities. Since aural-skills education should support the students to develop their aural awareness in the context of musical composition, I make frequent use of what I call *'extraction – elaboration –application'* tasks (Ilomäki 2011: 302–303). The students will listen to music, *extract* some elements (harmonic patterns, scales, rhythmic pattern) for closer study, and *elaborate* them in various ways: transpose, figurate and use the material for improvising one's own musical phrases. Finally, this knowledge is applied to the study of new musical examples.

I also maintain that aural-skills education needs to acknowledge types of musical anticipation – 'inner hearing' – which involve the instrument and which may differ from the detailed melodic approach that is characteristic to singing (Ilomäki 2011: 193–221). For example, pianists or guitarists may anticipate music in a global, harmonically and texturally oriented way. Such awareness can be developed through improvisation activities, which do not involve a strict reproduction of musical material, but instead develop the musician's ability to react to what they hear in a holistic way and judge what is appropriate and 'fits' the musical situation.[6]

4. The progress of the course: teacher's perspective

I started the presently described project after gradually developing my teaching within the previously described pedagogical framework. However, I still perceived that the work we had done in special projects, often with a small number of volunteer students, had not become fully integrated with our work in regular courses or shared between teachers. I also wished to go further than before in offering all students the possibility to work with their own instruments throughout the course and to give peer learning a central place in the courses, as well as encourage the students to participate in framing their own aural-skills assignments.

In 2012-13, several new teachers had joined our team, some of them working as part-time teachers and others substituting for the permanent staff. Personally, I shared the teaching responsibility for the presently described course with Elina Haapamäki, who had just joined our team. The situation required us to share thoughts and also lent itself to a practitioner-research project wherein we could promote each

6 Jazz musicians have particularly emphasised how musicians should learn to anticipate possible courses of musical action, develop an 'imaginative ear' (Maceli 2009).

other's reflection in the spirit of an 'inquiry community' (Cochran-Smith & Lytle 2009, 45–46). We also decided that this development required that we change the course assessment so that work of the students' individual choice will gain a more recognised role than before.

In this section, I will describe the progress of the course from my perspective as the teacher responsible for the course, informed by the feedback and observations that my colleague Elina Haapamaki provided upon following the students' work. I will first describe the first semester (13 meetings), wherein I took responsibility for the teaching, and then the latter semester (15 meetings), when we shared the teaching responsibility with Elina. When describing and discussing the findings in more detail in section 5, I will focus on the latter semester and especially the process whereby the students framed the individually chosen assignments that concluded the course.

In the beginning, the whole-group lessons contained singing, listening and basic improvisation exercises in order to get the students comfortable with working together and to introduce the musical materials of the course. Since most students' previous aural-skills courses had not contained post-tonal melody or harmony, we started by musical examples that involved symmetric scales and interval cycles, which easily lent themselves to improvisation. We also reviewed harmonic structures in common-practice music, which the students had already studied before, as well as music with changing rhythms.

Following the *extraction-elaboration-application* model of work (section 3), the students listened to musical examples and used their melodic and harmonic materials for various activities. They sang their own melodies to a partner, learned each other's melodies by ear and analysed their pitches using letter names, or wrote them down. We spent some of the whole-groups lessons in a room equipped with electrical keyboards, which enabled the students for such exercises as imitating each other's phrases and playing by ear and transposing outer voices from musical excerpts. Later in the course, we also used the keyboards for small score-reading tasks.

For their homework, I asked the students to practise similar singing exercises as those we had done in the classroom: first scales and various aurally based exercises and later sight singing (choral music and exercises from Edlund: *Modus Novus*). They also wrote aural transcription exercises for homework, using a special audio database.

The students split into small instrumental groups for half of the meeting (45 minutes) eight times during the course. They also brought their instruments to some whole-group lessons. Initially, the students applied in their small groups basically similar exercises as those we had done in the whole group. They improvised and imitated melodies based on different scales or harmonic units extracted from tonal compositions (e.g. the first period of Schubert: Symphony 5, second movement).

I gave written instructions for all of the small-group sessions, but encouraged the students to adapt the exercises. Later, I started to give alternative assignments and asked the students to decide how to use their time. Some students also wished to practise singing and aural analysis without their instruments in the small groups.

In the second semester, we shared the teaching responsibility with Elina, who usually taught every second lesson. We decided that I would continue with the students' instruments and improvisation exercises while she would concentrate on singing and writing. We worked with the whole group for more than two months,[7] but the students took their instruments to my lessons and explored different exercises and playing by ear all together, often using half an hour from the lessons with instruments.

Once in the autumn term and once after the middle of the course, each student presented singing and transcriptions assignments, which contributed to their course evaluation. Two months before the end of the course, we held a traditional test that involved transcriptions of music without the instrument, sight singing and rhythm reading. This was to make sure that the students would attain a certain level and have the skills to proceed to the next, optional course. Otherwise, we designed the evaluation so as to encourage the students to find their personal approaches to aural-skills practice and to encourage peer work and work with instruments. We decided to end the course with assignments that the students should select and frame individually or in pairs or small groups, adapting or developing the activities we had used in the course.

For their final assignments, the students presented the following types of work:

- Singing and rhythm reading in ensemble (choir songs and percussion pieces from the course repertory, orchestral excerpts)
- Technical sight singing (Edlund: *Modus novus*), solo songs (e.g. Berg) with playing the bass
- Singing excerpts of solo and orchestral music
- Rhythm reading (repertory examples, polyrhythm exercises)
- Instrumental improvisation on harmonic patterns from musical excerpts
- Aural imitation exercises with a partner (melodies, chord progressions)

The students presented their assignments mostly in pairs. We held a debriefing discussion and the students also gave written feedback. This last period and the negotiation process that led to it turned out to be the most valuable part of the course

7 Due to timetable clashes, some students missed lessons at the middle of the course, which they compensated by transcription assignments and by having extra rehearsals in pairs. Some whole-group meetings therefore involved ca. 10 students.

and also provided the most informative data. I shall describe them in more detail in the following section.

5. From implicit to explicit learning conceptions

We designed the collection of data so that the emergent findings could inform our teaching and enable us to focus on the research task (see also McKernan 1996: 223–227). In the first semester, I concentrated on the small-group work. I observed the small-group sessions, but only participated on a few occasions when the students seemed not to progress, and suggested, for example, roles that some players might take when improvising (e.g. invent an ostinato, take turns on melodic phrases). Elina also visited and observed the small groups before she started teaching. Twice, I asked the students to write a concise comment on their small-group work.

At the middle of the course, when Elina started to share the teaching responsibility with me, we collected our observations and the students' comments so far. The students' comments on the course and the small-group work were generally positive, but the data also suggested that some groups recurrently found it difficult to decide their assignments and could not get very far in their musical interaction.

The students' comments also made me realise how I might not have sufficiently shared the pedagogical ideas behind the course with the students. This interpretation was based on the following kinds of observations, which still became clearer in the early second semester:

- The students still often referred to the assignments as if they had one single correct answer. For example, the notated chord symbols appeared as being 'the answer' to the harmony tasks wherein I had wished the students to explore the music through various activities and to conceive written analysis as one possible tool.
- Some students doubted the usefulness of their instruments at occasions wherein the instruments required different types of aural judgement. For example, some wind players could not join the aurally based exercises as fast as the string players, whereas the harpsichord and kantele players brought up how they could often rely on visual cues or the labelling of various chords without using their aural orientation in an optimal way.

- Some students brought that they would like exercises that would be more similar to one another and proceed more logically according to increasing difficulty.

On the basis of the above observations, we decided to work for two months only with the whole group. At my lessons, we explored different instrumental exercises all together. Elina, in turn, concentrated on the singing and writing activities and also encouraged the students to find their personal approaches of learning. We discussed our plans and shared our observations by phone after each meeting, and consciously emphasised different types of work in our teaching.

We also decided to prepare the final, individually chosen assignments in a way that would help us discuss the pedagogical ideas underpinning the course and the possible discrepancies between the students' and teachers' assumptions of good aural-skills learning. Two months before the end of the course, we gave the students a planning and self-evaluation task, which involved a set of questions and some materials for reading and commenting. We also asked the students respond to present a plan for ten individually chosen assignments, wherein they would adapt the course activities. The students should also have completed fifteen aural transcription assignments during the whole course.

The questions and material contained the following:

- A summary of the activities and topics we had covered in the course and the request to comment on the activities that the students had perceived as being the most useful.
- A request to present a plan for the student's assignments of individual choice (10 aural tasks + transcriptions up to 15).
- A suggestion to reflect on which of the following criteria characterised the student's chosen goals:
  - become more fluent and secure
  - learn new ways to practise
  - understand, organise your knowledge
  - find a solution to a problem
  - relax, find freedom and enjoyment
  - something else?
- A set of statements that summarised some pedagogical ideas behind the course and the request to comment on them if the students wished

As the questions were broad, I gave the students the freedom to comment on the material selectively. The students responded by e-mail. Most responses were concise (ca. 120 words), two up to 630 words. We went through the material, and I wrote a concise feedback to each student. Some students already had a clear plan for their assignments, and I only added some questions or ideas. Others had mainly suggested topics of interest, to which I gave some general ideas and suggested that we continue to frame the tasks when we meet.

We devoted one meeting to the students' planning and rehearsal of their final assignments in small groups. Thereafter, the students had two more weeks to practise. We recommended certain students to work together, as their self-evaluation task had brought up similar needs. Other students had already joined into groups of two or three during the course. In the interest of classroom space, some student pairs who had similar ideas first practised in a group of six but presented their task as pairs.

We all, both the teachers and students, had a very positive experience of the final assignments. The musical results and the debriefing discussion suggested that many students had found connections between aura-skills learning and their instrumental study: both through repertory examples and by exploring how they could develop their aural awareness on their instrument. We also seemed to have reached some solutions to the problems I had wished to address when formulating the self-evaluations task. Some students had created exercises wherein they could devote time to the exploration of new approaches to their learning, without the pressure for immediate fluency. Other students who voiced their need for graded, systematic exercises, had joined together and created sets of exercises that involved both technical practice and exercises based on repertory.

The instrumental improvisations were often hesitant, but we appreciated that some students who found playing by ear difficult had explored this way of learning. Others, who were used to improvisation, took it as their goal to explore how they could also use improvisation as a tool to study repertory.

6. Concluding notes

I have described in this article some experiences from a course wherein we sought to encourage students' peer learning and the use of instruments in a regular aural-skills course at bachelor's level, and how we sought to involve the students in framing their aural-skills tasks. The project yielded us lots of practical experience on what to improve, and suggested models of working that we will continue to explore in future.

I focused this text on how conceptions and ideals of aural-skills learning are translated into the daily practice of aural-skills education. Namely, the setting wherein the students took responsibility for their small-group work brought up the need to address students' and teachers' sometimes differing assumptions on valuable and worthwhile aural-skills learning. Quite clearly, the process whereby we addressed and negotiated these assumptions could still become deeper and more effective, and become a form of 'thinking together' along of the lines of *dialogic inquiry* (Wells 2009: 55–56).

Making the underlying pedagogical thinking of a course explicit and having freedom regarding the practical activities and specific skills is also congruent with the 'process-inquiry' approach to curriculum (see also McKernan 2008). I also view such teaching as a way to inform aural-skills education by current knowledge on the richness and wideness of aural awareness and skills (chapter 3). Despite its demands, I also regard students' responsibility in the design of their own aural-skills assignments as a way to respond to the challenges of future musicianship and life-long learning (Smilde 2009).

Quite obviously, an essential perquisite for successful implementation of the small-group work and instrumental tasks was the changed procedure of student assessment, wherein we retained some traditional requirements but gave emphasis on the students' individually chosen assignments. While this topic was not the main focus of the present text, we will continue to develop and study it in the future.

On the basis of the experience, we are continuing to incorporate small-group work and student-framed assignments to our courses. A direction of further research that I wish to pursue in the future is to engage the students in documenting their optional tasks, e.g. by recording them. This will provide a further possibility to conveying to the students an idea of aural skills that is broad and inclusive and to encourage the students to develop their aural skills in service of their holistic musical learning.

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Connecting aural training and choral singing

Soila Jaakkola

Abstract

This presentation is based on a paper given at the GEFFF conference in October 2012, which in turn was based on the present author's dissertation (Jaakkola 2012), where methods for connecting aural training and choral singing were explored. The study focused on choral aural training, which is understood as activities in choirs intended to improve the music literacy and aural training skills of choral singers. The research was a qualitative content analysis of sight-singing books (n = 41) written for amateur adult choral singers. These books were published in the Nordic countries, central Europe and North America between 1980 and 2007. The material included a number of sight-singing books with very different approaches, and the six books that stood out from the rest were discussed as case studies. These six featured a diversity of perspectives on aural training that led to the outlining of six approaches or 'pathways' to choral aural training. These pathways are briefly introduced in this presentation.

Keywords: choral aural training, music literacy, aural training, sight-singing, choral education

The choir is an instrument like any other. Musicians are required to sing in aural training classes even when their own instrument is not the voice. Singing has in fact been one of the principal working methods in aural training for hundreds of years, yet there has been relatively little interest in singing as a working method in rehearsing polyphonic music, until recently. This argument is based on the content analysis of aural training books, which seem to be concentrating on one voice melodic line in a noticeable degree during many decades.

In my dissertation (Jaakkola 2012) I explored methods for connecting aural training and choral singing, and here I will present six "paths" to choral aural training with the help of my case books. In my dissertation every case is presented with some excerpts from the actual book. The reader of this presentation, who is interested in becoming familiar with this material, can read it on the internet (see webpage under the references, and page numbers referred to in each case).

1. Abilities of a choral singer needed in choral singing

Choral singing is singing in a choral environment. Singing in a choir demands various abilities (1–5 below) or learning environments (6–7), which I find important for the choral education. I gathered these points for my GEFFF paper to find the frame of reference for this presentation and for my viewpoint on connecting choral education and higher music education in aural training.

Choral singers need a (1) good voice quality combined with a good vocal technique. Aural training students do not have to become professional singers, but aural training teachers should be able to help students with their voice control. In Finland at least, we aural skills teachers do not focus enough on the voice itself in aural training classes.

Choral singers need to (2) learn to adapt to both vertical and horizontal lines in music. This is a crucial skill in choral music. Also, (3) being able to read the score and to hear the harmonies are both necessary when seeking good intonation.

(4) An awareness of music theory, history, stylistic questions and musical concepts connected to music-making is an essential part of understanding music as a whole.

In choral singing (5) certain special skills are also needed, such as how to use a tuning fork and how to read the conductor.

For choir singers (6) aural training should be connected to choir rehearsals. Training the voice with aural training exercises during choir rehearsals and having warm-up exercises for both the ear and the voice before starting to rehearse are important. These warm-up exercises may concentrate on intonation, different types of intervals and chords, chord progressions, and so on.

Choral aural training should be part of the whole choral education, (7) connecting musical and social aspects while singing. This is a simple product of learning music in a group, taking the social aspects between the group members into consideration, very similar to what happens in chamber music. Connecting choral singing and aural training in music education also yields other benefits such as being connected to live music and hearing 'real-life' musical examples.

2. Pathways to choral aural training

The purpose of this presentation is to share certain key ideas presented in my doctoral dissertation (Jaakkola 2012). The study was a qualitative content analysis of sight-singing books (n = 41) written for amateur adult choral singers.[1] These books were published in the Nordic countries, central Europe and North America between 1980 and 2007. The majority of them share almost identical pedagogical choices and conceptions about the contents of music theory and sight singing, and concentrate on presenting basic notation put into practice with unison singing exercises. The examples or exercises used in the books are usually well-known songs or short melodies composed by the authors. The main elements (or fundaments) of music featured in these books are rhythm, melody and dynamics. Harmony, structure and timbre are seldom mentioned. Although these sight-singing books were supposedly intended for choral singers, they in fact touch very little upon choral singing, choral music or polyphonic music in general.

Fortunately, my material included six sight-singing books that featured very different approaches and thus stood out from the rest, and accordingly I used these as case studies. Moreover, these six books featured a diversity of perspectives on aural training, to such an extent that I was able to identify six different approaches – or pathways, as I call them – to choral aural training. We should note that for my purposes 'aural training' is a broad concept of which reading ability (sight-singing) is only one part.

The six pathways and the books featured in the case studies are (in alphabetical order):

(1) The diversity pathway (Bergroth et al. 1998)
(2) The contemporary music pathway (Edlund 1983)
(3) The overtone series pathway (Hölzl 1987)
(4) The aural training method pathway (Nyström 1996)
(5) The traditional pathway (Reitan 1998)
(6) The musical element pathway (Telfer 1992, 1993)

1 Originally there were 122 books, but only 41 remained in the research material. Whether a book was determined to be a book on choral aural training depended on the title of the book, its introduction and its back cover text. Other factors used for delimiting the material included the age and language of the publications and whether they were specifically intended for adult choral singers. (Jaakkola 2012, 48–50, 68–71.)

3. Pathways developing a choral singer's ability to read music

3.1 The diversity pathway

Bergroth, Hesthammer and Sundell (1998)[2] start from a music education foundation where diversity is the key in all areas. The authors present sight-singing as a skill in which choral singers can be trained through a variety of tasks to be performed by both individuals and groups. Sight-singing is also seen as part of a larger entity, an essential part of making music in a choir. The exercises in *Sjung nu! Körsång. Rätt, lätt och roligt* aim not only to improve singers' sight-singing skills but also to enhance the social cohesion of the choir. The choral sight-singing exercises train choral singers much more widely than just teaching them to read music.

The diversity of this approach is apparent in the extensive and many-faceted nature of the teaching materials included. This book is in two quite large volumes. The book is designed to facilitate the learning process in many ways: the text is easy to read, the music is typeset with much white space, and the illustrations are in colour, which is a rarity in choral sight-singing books.

This is called the 'diversity pathway' because it has a multiplicity of both means and aims: developing sight-reading skills is a tool that works towards both the musical cohesion and the social cohesion of the choir. An individual choral singer is seen as an active participant in a group. While the process to learn music reading and sight-singing is important, it is not an end in itself, more a means for attaining broader pedagogical goals. Choral aural training is here seen as a comprehensive discipline that blends seamlessly with other areas of choral education. This pathway incorporates many areas of choral aural training and features a large number of theoretical musical terms and a great variety of exercises. Through the diversity pathway, the choral singer gains a wealth of information about the various areas of choral aural training and learns sight-singing skills through an incredibly varied range of exercises.

3.2 The contemporary music pathway

Körstudier by Edlund (1983)[3] focuses on choral aural training from a musical era perspective. This book is designed to introduce singers to the notation, rhythms, melodies, (free-tonal) harmonies and tonal colours of contemporary music through preparatory exercises and eventually entire choral works, all written by Edlund himself.

2 See examples of this case book on the webpage http://ethesis.siba.fi/files/nbnfife2012120410132.pdf, 122, 124, 126.

3 See examples of this case book on the webpage http://ethesis.siba.fi/files/nbnfife2012120410132.pdf, 131-134.

Contemporary choral music forms both the starting point and the content of the book. All exercises and compositions in the book have one and only one goal: to teach the student how to interpret composition techniques in modernist contemporary music – roughly, music written after the Second World War. The style and period delimit the content and teaching methods used.

Edlund's book is not a primer: it is intended for the advanced student. The era and style featured are in fact a practical starting point for improving the sight-singing skills of a choral singer with some experience. After all, the interpretation of choral music and ultimately the details of how it is read are all dependent on the style of the music.

The contemporary music pathway assumes a relatively good level of choral sight-reading skills that is then augmented with features from a certain style and era of music. This pathway allows a choral singer to become familiar with a wide range of choral music styles through technical proficiency acquired in aural training. The choral singer for whom this approach is intended is one well versed in basic sight-singing and repertoire and interested in tackling unusual and challenging exercises.

3.3 The overtone series pathway

Ein Weg zum Singen nach Noten by Hölzl (1987)[4] is based on the overtone series, so much that understanding it is essential for understanding the book. The overtone series is presented as a 'deep-level' structure in music that influences many of the practical components of aural training, such as understanding scales, intervals, harmonies and harmonic movements, and intonation issues. Hölzl explains these largely through text, with only a few exercises.

Hölzl's book is an example of an approach where basic musical concepts are explored through deeper-level structures. Sight-singing books are usually dealing with the surface level of music, leaving its structure and deeper levels completely untouched. Hölzl's book is thus unique among the pedagogical approaches in my study material.

The overtone series pathway is challenging due to its theoretical nature. Hölzl divides his book into chapters by topic, requiring the reader to make sense of larger entities on his own. Hölzl also assumes that his readers are adult students who, thanks to age and experience, are able to comprehend complex frameworks and causal relationships. As Hölzl explains the overtone series using numerical descriptions, the reader must also be mathematically literate.

4 See examples of this case book on the webpage http://ethesis.siba.fi/files/nbnfife2012120410132.pdf, 137–142.

The overtone series pathway asserts that understanding the deep-level structures of music will lead to an understanding of the basic structures of music theory. This is the pathway among the six described here that really addresses adult choral singers. I would consider this pathway too challenging and complex for use in choral aural training with children or adolescents. Moreover, in my view the description of the overtone series in the book is far removed from practical music-making, being presented as a theoretical framework only. Choral singers following this pathway are assumed to have the desire and ability to understand the big picture and how music is constructed.

3.4 The aural training method pathway

In *Prima vista. Att sjunga efter noter – från grunden* by Nyström (1996a, 1996b)[5], choral aural training is approached through the pitch function method (*tonplatsmetoden*). In this method, degrees in the scale are given numbers. The method is systematically explained in the exercise book and in the last chapter of the theory book. The method involves exercises with a single melody line, to be practiced on one's own using the book and CD as a guide. The purpose of the method is to learn how to read one's own part and how to blend into the choral texture. Nyström also uses the pitch function method for explaining basic concepts in the theory of music. The theoretical content in Nyström's book is actually quite extensive. With all its auxiliary material and examples, plus a collection of Swedish songs for mixed choir (called *Körprisma*), this is by far the largest package among the six studied here in terms of the number of pages. Nyström goes quite a long way in aural training with the pitch function method, from understanding one's own choral part to an awareness of four-part harmony, bringing the theory of music and sight-singing together into a single pedagogical entity.

The aural training method pathway employs a practical method for choral aural training. The principle is that tonal choral music will be easy to grasp once the student learns one aural training method really well. The method used is presented using practical examples from choral music and a lot of repetition through exercises, supported by the CD included. A considerable amount of music theory is acquired along the way. A choral singer following this pathway is assumed to become a good sight-reader through mastery of a specific method.

5 See examples of this case book on the webpage http://ethesis.siba.fi/files/nbnfife2012120410132.pdf, 147–151.

3.5 The traditional pathway

Reitan (1998)[6] approaches choral aural training through traditional aural training means. *Finn tonen – hold takten. Lærebok i melodilesning og musikkteori for korsangere* addresses basic concepts in the theory of music and illustrates them with sight-singing exercises. The theoretical content in the book is broken down into numerous small sections, and the principal elements of music recur in various contexts. The methods employed in the book are familiar from traditional aural training classes: singing, reading out rhythms, listening and transcribing melodies by ear. The sight-singing method is not prominently discussed, although Reitan does recommend the pitch function method. An interesting feature in Reitan's book is that sight-reading a melody is grounded in good sight-singing skills and also comprehension of key. The book focuses on understanding sight-singing through the framework of tonal scales and contains a wealth of one-part sight-singing material in various keys. Reitan approaches four-part mixed choral music through mastery of one's own choral part.

The Reitan case study represents a traditional combination of aural training and theory of music, with theoretical concepts linked to (mainly) one-part melodic sight-singing exercises. In fact, most of my research material is similar to Reitan's book, with most of the emphasis placed on theory and not so much on sight-singing itself. This case study thus represents the great majority of my research material, although I selected Reitan's book for further study because it goes further than traditional sight-singing materials in discussing choral aural training. The book contains instructions on how to read a choral score and how to use a tuning fork, and it also includes four choral works with instructions on how to approach them and a CD with examples. The book is spaciously laid out and has illustrations, and the correct answers to the theory assignments are given at the end.

In the traditional pathway, choral aural training is seen as a process for learning basic concepts in the theory of music and how to read one's own choral part, a single-voice melody. Sight-singing skills are mostly acquired through repetitive exercises in various keys. There are also theory, listening and transcription assignments. The pathway is called traditional since this is how sight-singing has been taught for more than two centuries. Choral aural training is something of a sidebar in this traditional sight-singing, with some added pointers relevant for choral singers. The book contains traditional choral pieces for pedagogical purposes. A choral singer following

6 See examples of this case book on the webpage http://ethesis.siba.fi/files/nbnfife2012120410132.pdf, 156–157.

this pathway follows traditional aural training and relies on a single pitch function method to gain sight-singing skills.

3.6 The musical element pathway

Telfer's (1992, 1993)[7] books *Successful Sight-Singing. A Creative, Step by Step Approach*. *Vocal Edition Books1 and 2* are grounded in solfège teaching. The premise here is that a choral singer's music reading skills can best be improved by working with unpredictable and unfamiliar music instead of familiar or predictable melodies. Because of this, Telfer has written all of the books' exercises (in two and three parts) herself. These are characterised by the use of certain rhythmical figures and metres and frequent shifts between them. Telfer emphasises the rhythm component, which is rare in the context of my research material. Melody is usually far more prominent, rhythm being dealt with in separate rhythm-reading exercises. The logic behind this is probably that sight-singing exercises can become too difficult if they have complicated rhythms in addition to tricky intervals.

Telfer focuses on intervals as an essential feature in sight-singing alongside rhythm. She uses a movable-do solfège method, which is also relatively rare in the context of my research material. The harmonic basis for her exercises is tonal, although towards the end there is an extension towards contemporary harmonies.

Telfer provides each lesson with a pedagogical summary, collected in two teacher's guides. The student's books are rather traditional in their content, and do even ignore major and minor scales and chords. By contrast, the approach is augmented with the addition of sight-singing instructions, exercises featuring choral music with piano, and a discussion of modulations. Telfer's book also has added clarity through the use of colours and layout.

The musical element pathway emphasises mastery of a single element of music and the use of this as the basis for further improvement of a choral singer's sight-singing skills. The single element chosen could of course be something else apart from rhythm, being the focus here. However, notwithstanding the emphasis on rhythm, it is not the only element covered in this material: a handful of carefully selected basic concepts in music theory (e.g. two functions only: tonic and dominant, and very large selection of intervals 1–11) are discussed alongside the two-part and three-part exercises that simulate traditional choral music. Comprehension of musical material and concepts in music theory is facilitated through the use of a solfège method. In addition, the use of

7 See examples of this case book on the webpage http://ethesis.siba.fi/files/nbnfife2012120410132.pdf, 161-162, 164, 166–171.

colours supports the reading and classification of musical concepts. In this pathway, the student is seen as a motivated choral singer who is inspired to play around with slightly unconventional musical materials. Students will acquire basic skills in solfège and rhythm control, assumed to lay the groundwork for further improvement of aural skills through the choir's own repertoire.

4. Conclusion

The above examples are simple but effective. My research material is rather coherent, and although all of the books I reviewed are intended for choral singers, the connection between aural training and choral music or educational concepts concerning choral music appeared quite tenuous and practically non-existent apart from the handful of books that I selected as case studies. Most of the books being reviewed attend basic concepts in music theory and notation. Pedagogical ideas specifically pertaining to adult education were rare.

In my dissertation, choral singing is described as a complicated set of skills comprising many different skills. I therefore prefer to consider choral aural training as much more than developing the skill of reading one's own part in a choir. Choral aural training should cover more than just the teaching of sight-singing.

The majority of the books I selected as case studies contain a wide range of exercises in multiple parts and examples from actual choral works. These cases constitute textbooks of choral music that introduce choral singers to repertoire on the one hand and to concepts of music theory and sight-singing strategies on the other, in a unified pedagogical scheme. Each book provides its own perspective on how choral singers should be instructed and how choral aural training should be approached. The exercises in each book are grounded in the context of actual choral singing, meaning that the exercises are designed to support choral rehearsals. The theoretical concepts highlighted in the case studies are impulses for practical actions. Choral singers are instructed in how to apply theoretical knowledge in their singing. The case study books approach choral singers as active individuals who, given a certain amount of theoretical background information, will be able to manage their own choral parts independently and also to identify various larger elements in the printed score – whether rhythmic, melodic or harmonic. Choral singing is considered an artistic pursuit where the music literacy skills of choral singers are a vital component. The main responsibility for rehearsing choral music naturally lies with the choir conductor, but choral singers are both able and expected to take greater responsibility for their

contribution to the whole. These books consider choral aural training as a mechanism that translates music literacy into practical music-making.

To put it another way, the case study books consider choral aural training more broadly than most of the other books in my research material. Each case study provides a different example of how choral aural training may be addressed in great depth. The 'pathways' I described in my dissertation emerged from these case studies, and I do not pretend that these are the only possible approaches to choral aural training or sight-singing skills. My feeling is that a skilled choral singer will leverage his/her knowledge of the theory of music, vocal technique, score reading skills and ability to analyse what he/she hears in order to blend with the choral texture. This principle can open up any number of pathways towards merging choral aural training and choral singing.

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In this anthology, five Norwegian and two Finnish music educators explore various aspects of aural skills awareness and musical aural training in higher music education. The first three articles focus on aural perspectives in a progressive line: from applicant, to student, to professional musician. The following three articles deal with learning strategies that may be helpful in acquiring and perfecting aural awareness and skills. Lastly, six selected sight-singing textbooks for choral singers are presented. Read together, this anthology provides insight into different aspects of the musical ear – as a phenomenon, as a discipline, and in function.

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